Initial Review Draft
Environmental Assessment/Regulatory Impact Review/ Initial Regulatory Flexibility Analysis for a Regulatory Amendment to Implement Guideline Harvest Level Measures in the Halibut Charter Fisheries in IPHC Regulatory Areas 2C and 3A

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Abstract: This analysis examines proposed changes to the management of Pacific halibut guided sport (charter) fisheries in International Pacific Halibut Commission Regulatory Areas 2C and 3A in the Gulf of Alaska. The proposed actions are each area would lower charter halibut harvests below their respective guideline harvest levels (GHLs). The Council is considering three alternatives for each area. If action is taken by the Council and subsequently approved by the Secretary of Commerce, the earliest any of the proposed alternatives would be effective is the 2007 charter fishing season.

For Area 2C (Southeast Alaska), alternatives include: (1) no action; (2) limit vessels to one trip per day, prohibit harvest by skipper and crew, and set an annual catch limit of six fish for individual clients; and (3) limit vessels to one trip per day, prohibit harvest by skipper and crew, and set an annual catch limit of five fish for individual clients. Alternative 2 would have reduced harvest in 2004 from 122.2 percent of the GHL to between 107.5 and 109.6 percent of the Area's GHL. Alternative 3 would have reduced harvest in 2004 from 122.2 percent of the GHL to between 101.3 and 102.7 percent of the Area's GHL.

For Area 3A (Southcentral Alaska), alternatives include: (1) no action; (2) limit vessels to one trip per day; and (3) limit vessels to one trip per day and prohibit harvest by skipper and crew. Alternative 2 would have reduced harvest in 2004 from 100.5 percent of the GHL to between 94.0 and 96.1 percent of the Area's GHL. Alternative 3 would have reduced harvest in 2004 from 100.5 percent of the GHL to between 83.5 and 88.4 percent of the Area's GHL.

A final regulatory flexibility analysis focusing on the preferred alternative will be included in the final regulatory package submitted for Secretarial review.

Comments Due: The public may comment on the proposed action at any time prior to the selection of a preferred alternative by the Council during final action. A formal public comment period will be announced by the Secretary of Commerce upon publication of the proposed rule.

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ABBREVIATIONS

ADF&G	Alaska Department of Fish and Game
CEY	Constant Exploitation Yield
E.O.	Presidential Executive Order
GHL	Guideline Harvest Level
IPHC	International Pacific Halibut Commission
IRFA	initial regulatory flexibility analysis
ISER	University of Alaska, Anchorage Institute for Social and Economic Research
Lbs	Pounds
M	Million
NPFMC	North Pacific Fishery Management Council
OMB	Office of Management and Budget
RFA	Regulatory Flexibility Act
RIR	Regulatory Impact Review
SBA	U.S. Small Business Administration
SWHS	Statewide Harvest Survey

EXECUTIVE SUMMARY

In February 2000, the North Pacific Fishery Management Council (NPFMC or Council) adopted guideline harvest levels (GHL) for the charter halibut fishery in International Pacific Halibut Commission (IPHC) Regulatory Area 2C, Southeast Alaska (1,432,000 lb net weight), and Area 3A, Southcentral Alaska (3,650,000 lb). The GHLs were approved by the Secretary of Commerce and implemented by NOAA Fisheries in September 2003 (68 FR 47256). The Council's proposed action also identified a suite of management measures that would be triggered in the year following harvests in excess of the GHL(s). Legal review of the proposed actions, however, identified concerns with NOAA Fisheries' ability to "framework" those measures without additional public process. Therefore, proposed GHL management measures were not implemented in regulation. Instead, the Council may initiate a new analysis each time management action is deemed necessary to reduce or increase harvests.

At its October 2005 meeting, the Council reviewed final 2004 halibut charter harvest estimates from the Alaska Department of Fish and Game (ADF&G) Sport Fish Division. The data indicated that the GHLs had been exceeded by 22 percent in Area 2C and less than 1 percent in Area 3A. In response to the new information, the Council initiated an analysis that includes a proposed action to lower halibut charter harvests below the GHLs.

At its December 2005 meeting, the Council elected to reexamine its preferred alternative for managing the charter halibut fishery. Instead of proceeding with its April 2001 preferred alternative to implement a quota share program based on past participation in 1998 or 1999 and 2000, the Council elected to appoint a stakeholder committee to examine a suite of management options proposed by the Alaska Department of Fish and Game prior to any further action. Included in the suite of proposed options are the measures contained in this document, which were approved for analysis in October 2005. These measures derive from the Council's 2000 analysis for measures that would result in lower charter halibut harvests.

For each area, the Council is considering three alternative actions:

For Area 2C:

- Alternative 1. No action
- Alternative 2. Limit vessels to one trip per day, prohibit harvest by skipper and crew, and set an annual catch limit of six fish for individual clients.[1]
- Alternative 3. Limit vessels to one trip per day, prohibit harvest by skipper and crew, and set an annual catch limit of five fish for individual clients.

For Area 3A:

- Alternative 1. No action
- Alternative 2. Limit vessels to one trip per day.
- Alternative 3. Limit vessels to one trip per day and prohibit harvest by skipper and crew.

[1] When not outlining the full text of specific alternatives, this report uses the term "crew harvest" to denote harvest by skippers, deck hands, and others working on charter vessels. Additionally, this analysis defines a trip as actively being on the water and fishing with paying clients during a calendar day. For example, a vessel leaving Wednesday night and returning on Thursday morning and actively fishing with paying clients on both days is defined as having taken a trip on both Wednesday and Thursday. No further activity would be permitted on Thursday under the one trip per day limit.

The purpose of the proposed action is to lower charter halibut harvests in Areas 2C and 3A to the area guideline harvest levels (GHLs). In 2000, the Council adopted GHLs for the IPHC areas to address allocation issues between the guided sport sector and commercial users of the halibut resource. The GHLs are intended to stop the open-ended reallocation between commercial and guided sport sectors. The Council remains concerned that over time allocation conflicts between sectors may resurface, and that overcapitalization in the guided sport fleet may have a negative impact on both guided sport operators and anglers.

The sections below summarize the estimated effect of the alternatives.

Expected Effect of Each Alternative in Area 2C

The analysts estimate that based on 2004 harvest levels, Alternative 3 would be the alternative most likely to reduce charter fleet harvest in Area 2C to near the GHL of 1.432 million pounds (see Table ES-1).[2] The analysis does not directly show that any of the alternatives would definitively reduce harvest below the GHL. However, the fact that the analysis underestimates the effect of the annual limit leads the analysts to believe that Alternative 3 would have come close to reducing 2004 harvests to near the GHL.[3] Additionally, the analysts note the following:

- The effect of Alternative 1, the no action alternative, depends in part on the action of the Alaska Board of Fisheries in March 2006. If the Alaska Board of Fisheries accepts the proposals submitted by ADF&G (see Section 1.3.1), then an indirect result of Alternative 1 for Area 2C would be a reduction in harvest of at least 3.3 to 4.5 percent as estimated in Section 2.6.3. However, Alternative 1 would not reduce current harvest levels itself and halibut harvests would likely continue their current trends of long-term growth if ADF&G's proposals are not accepted by the Board of Fisheries.
- Alternative 2 would limit vessels to one trip per day, eliminate harvest by crew members, and place an annual limit of six fish on charter clients. The analysts estimate that this alternative would have reduced harvest in 2004 from 122.2 percent of the GHL to between 107.5 and 109.6 percent of the Area's GHL. While this alternative would reduce harvest in the short-term, charter industry harvest would remain above the GHL and likely continue a long-term growth trend in harvest levels. Industry interviews indicated that the banning of multiple trips per day was unlikely to significantly reduce harvest, but would economically affect operators who rely on that business model to stay in business. These same interviews indicated that the institution of a six fish annual bag limit would economically affect those charter operators who are currently providing experiences longer than three days in length through increased marketing costs and lower margins. In the long-term, the result of these effects could be a transfer of pressure from inside passage communities (e.g., Petersburg and Wrangell), which rely on halibut in the summer months to those facing the Gulf of Alaska (e.g., Sitka), which have greater access to a variety of species. The alternative could also lead to increased pressure on alternative species. The elimination of harvest by crew members was widely supported by industry members during the interviews and is not expected to cause significant economic losses to the industry.

[2] The analysts estimate the effect of the proposed alternatives using ADF&G estimates of 2004 harvest levels. The analysis does not project the effect of the alternatives on 2005 and beyond harvest levels for several reasons, including the fact that halibut harvest levels, the rate of change in harvest levels, and average fish size are highly variable from year-to-year, making prediction difficult; 2005 data were not available from ADF&G at the time of the analysis; and because 2004 makes a useful conservative baseline year (e.g., if the alternatives would not have lowered 2004 harvests below the GHL in a rising harvest environment then they are unlike to lower higher harvests in future years below the GHL).

[3] Please see Section 2.5 for a discussion on how the analysis underestimates effect of the annual limit.

- Alternative 3 would limit vessels to one trip per day, eliminate harvest by crew members, and place an annual limit of five fish on charter clients. The analysts estimate that this alternative would have reduced harvest in 2004 from 122.2 percent of the GHL to between 101.3 and 102.7 percent of the Area's GHL. While this alternative would reduce harvest to a level close to the GHL, it is likely that charter industry harvest would remain slightly above the GHL and continue a long-term growth trend in harvest levels. Alternative 3 would have all of the same economic effects as Alternative 2, but would also result in additional economic effects for charter operators and lodges that book anglers for stays longer than two days in duration. In the long term, the result of these effects could be a transfer of pressure from inside passage communities (e.g., Petersburg and Wrangell) to those facing the Gulf of Alaska (e.g., Sitka and Prince of Wales Islands) and increased pressure on alternative species.

Table ES-1. Effect of Alternatives of Charter Industry Halibut Harvest (2004) in Area 2C

Category	Management Measure/Effect	Alt. 1	Alt. 2		Alt. 3	
			Lower Estimate	Upper Estimate	Lower Estimate	Upper Estimate
Management Measures	One Trip Per Day (Percent of Harvest)	N/A	0.3%	0.6%	0.3%	0.6%
	No Harvest by Crew (Percent of Harvest)	N/A	3.3%	4.5%	3.3%	4.5%
	Annual Limit of 6 Fish (Percent of Harvest)	N/A	7.0%	7.0%	N/A	N/A
	Annual Limit of 5 Fish (Percent of Harvest)	N/A	N/A	N/A	12.2%	12.2%
Net Reduction	Total Net Reduction (Percent of Harvest)	0.00	10.6%	12.1%	15.8%	17.3%
	Total Net Reduction (Millions of Pounds)	0.00	180,000	210,000	280,000	300,000
Estimated Harvest Levels	Estimated 2004 Harvest with Restrictions	1.750	1.570	1.540	1.470	1.450
	Harvest as a Percentage of the GHL	122.2	109.6	107.5	102.7	101.3

Source: Northern Economics, Inc. estimates based ADF&G Logbook and Statewide Harvest Survey Data.

Expected Effect of Each Alternative in Area 3A

In 2004, the charter industry's halibut harvest was 100.5 percent of the 3.65 million pound GHL (Table ES-2). Unlike the estimated effects of the alternatives proposed for Area 2C, the analysts estimate that the action alternatives for Area 3A are likely to reduce Area 3A charter harvests below the GHL. Because Alternative 3 reduces overall harvest by the greatest amount, the alternative would likely provide the longest time period before industry harvests approach the GHL in the future. Additionally, the analysis notes the following:

- Alternative 1, the no action alternative, would not reduce current harvest levels or change current industry trends without independent action by the Alaska Board of Fisheries on ADF&G's proposals. If the Board accepts these proposals (see Section 1.3.1) then an indirect result of Alternative 1 for Area 3A would be a minimum reduction in harvest of between 7.7 and 10.5 percent as estimated in Section 2.6.3. The analysts note that both ADF&G staff and charter industry members have said that the 2005 harvest in Area 3A is likely to be under the GHL. Industry members indicated that the 2004 harvest was boosted by the diversion of tourism activities away from interior Alaska to Southcentral Alaska because of interior wildfires. Thus, it is likely that under the no-action alternative, and without Board of Fish approvals of ADF&G proposals, that harvest levels in Area 3A would slip below the GHL for a short period before growth in tourism and the charter fleet pushed industry harvest above the GHL.

- Alternative 2 would limit vessels to one trip per day. The analysts estimate that this alternative would have reduced harvest in 2004 from 100.5 percent of the GHL to between 94.0 and 96.1 percent of the Area's GHL. As noted above and discussed in Section 2.6.2, industry members indicated in key informant interviews that the effect of this management measure could be very short-term as the response of operators using the multi-trip per day or overnight trip business models would likely increase the number of boats operated and work to ensure that boats now operated at voluntary less-than-capacity levels are operated at full capacity. Additionally, the analysis likely overestimates the effect of the alternative even without the adaptations above, because excess capacity currently exists in the Southcentral charter fleet. This excess capacity means that a portion of displaced clients are likely to find seats with operators currently using the one-trip-per day business model.
- Alternative 3 would limit vessels to one trip per day and eliminate harvest by crew members. The analysts estimate that this alternative would have reduced harvest in 2004 from 100.5 percent of the GHL to between 83.5 and 88.4 percent of the Area's GHL. As with Alternative 2, the portion of the reduction associated with restrictions on the number of trips per day is likely to be overestimated by this analysis and short-lived. The majority of the reduction associated with this alternative comes from the elimination of crew harvests. Industry members indicated to the analysts that this management measure of the alternative is likely to be the most effective, have the greatest long-term effect, and have least economic effect on charter industry members.[4] These comments appear to imply that the industry would choose Alternative 3 from amongst the listed Alternatives, but would prefer that the one-trip per day limit be removed from the Alternative, as the goal of the measure can be achieved without that management measure.

Table ES-2. Effect of Alternatives of Charter Industry Halibut Harvest in Area 3A

Category	Management Measure/Effect	Alt. 1	Alt. 2		Alt. 3	
			Lower Estimate	Upper Estimate	Lower Estimate	Upper Estimate
Management Measures	One Trip Per Day (Percent of Harvest)	N/A	4.4%	6.4%	4.4%	6.4%
	No Harvest by Crew (Percent of Harvest)	N/A	N/A	N/A	7.7%	10.5%
Net Reduction	Total Net Reduction (Percent of Harvest)	0.00	4.4%	6.4%	12.1%	16.9%
	Total Net Reduction (Millions of Pounds)	0.00	161,000	235,000	442,000	620,000
Estimated Harvest Levels	Estimated 2004 Harvest with Restrictions	3.668	3.508	3.434	3.227	3.048
	Harvest as a Percentage of the GHL	100.5%	96.1%	94.0%	88.4%	83.5%

Source: Northern Economics, Inc. estimates based ADF&G Logbook and Statewide Harvest Survey Data.

[4] For more discussion on these topics, please see Section 2.6.3.

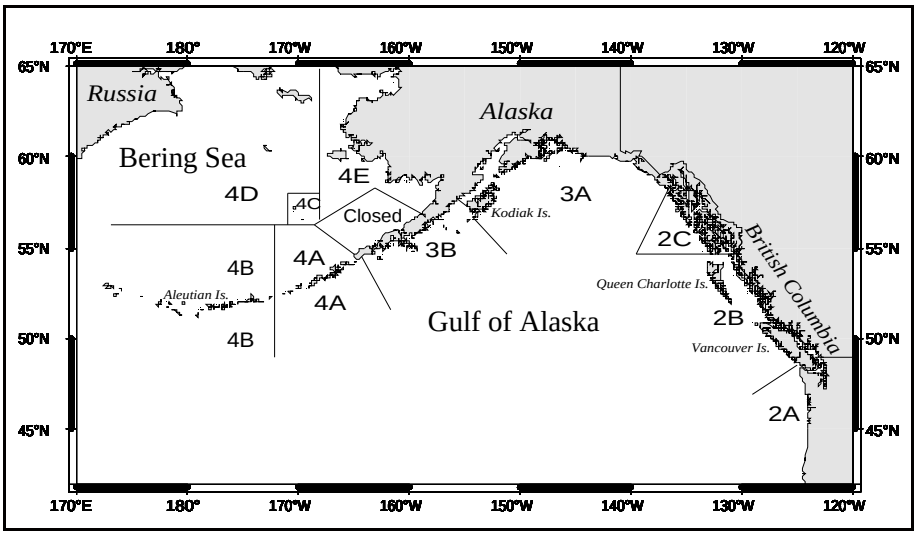
1.0 ENVIRONMENTAL ASSESSMENT

1.1 Purpose and Need for the Action

1.1.1 Introduction

This analysis assesses the potential impacts of implementing management measures to lower harvests to less than the guideline harvest levels (GHLs) that were implemented in regulation for the halibut charter fisheries in International Pacific Halibut Commission (IPHC) Regulatory Areas 2C (Southeast Alaska) and 3A (Southcentral Alaska) (Figure 1). The proposed action was initiated in October 2005, when the Council reviewed 2004 ADF&G data that indicated that the GHLs in both areas were exceeded. Implementing management measures to reduce harvests below the GHL is the next management step as outlined in the Council's GHL policy.

Figure 1. IPHC regulatory areas for the commercial halibut fishery.



This analysis specifically assesses the impacts of proposed management measures to reduce charter halibut harvests to below the respective GHLs. Relevant information from the 1997 and 2001 Council analyses (NPFMC 1997, 2003) will be brought forward in this analysis as appropriate. Though the previous analyses are incorporated into this document by reference and are part of the administrative record for this action, only this current analysis, along with the proposed rule, will constitute the regulatory package submitted to the Secretary of Commerce for review after the Council identifies its preferred alternative. If approved, GHL management measures could be implemented in 2007 at the earliest.

Both Federal and state agencies share management of Pacific halibut *Hippoglossus stenolepis*. The domestic fishery is managed by the IPHC as provided by the Convention Between the United States and Canada for the Preservation of the Halibut Fishery of the Northern Pacific Ocean and the Bering Sea (Convention) and the Northern Pacific Halibut Act of 1982 (Halibut Act). The Halibut Act authorizes the North Pacific Council to:

> *"...develop regulations governing the United States portion of Convention waters, including limited access regulations, applicable to nationals or vessels of the United States, or both which are in addition to and not in conflict with regulations adopted by the Commission. Such*

regulations shall only be implemented with the approval of the Secretary, shall not discriminate between residents of different States, and shall be consistent with the limited entry criteria set forth in Section 303(b)(6) of the Magnuson Act. If it becomes necessary to allocate or assign halibut fishing privileges among various United States fishermen, such allocation shall be fair and equitable to all such fishermen, based upon the rights and obligation in existing Federal law, reasonably calculated to promote conservation, and carried in such manner that no particular individual, corporation, or other entity acquires an excessive share of the halibut fishing privileges..."

In general, the language in the Magnuson-Stevens Fisheries Conservation and Management Act (MSA), the Halibut Act and the Convention has been interpreted to assign responsibility to the Council on halibut management issues concerning allocations and limited entry. Other applicable law, including Executive Orders 12866 and 12962, National Environmental Policy Act (NEPA), Endangered Species Act (ESA), Marine Mammal Protection Act (MMPA), and the Regulatory Flexibility Act (RFA), all mandate that certain issues be examined before a final decision is made. These analytical requirements are addressed in this Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis.

This Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis (EA/RIR/IRFA) addresses an amendment to the federal fishery regulations affecting the charter (guided sport) halibut fishery. NEPA, E.O. 12866, and the RFA 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 is addressed in Chapter 1. Chapter 2 describes the alternatives considered for analysis. Chapter 3 describes the affected environment. Chapter 4 discusses the biological and environmental impacts of the alternatives as required by NEPA, as well as impacts on endangered species and marine mammals. Chapter 5 contains a Regulatory Impact Review (RIR) as required under E.O. 12866. Chapter 6 contains the Initial Regulatory Flexibility Analysis (IRFA) as required under the RFA.

1.1.2 Background and history of the charter halibut guideline harvest level

Background. Charter halibut harvests, along with other non-commercial harvests, are unrestricted because there is no specific allocation to (or limit on) the charter fishery. This results in an open-ended allocation to the charter fishery from the commercial halibut fishery. Therefore as the charter fishery expands, its harvests reduce the allocation to the commercial halibut fishery and, subsequently, the value of quota shares (QS) in the commercial halibut IFQ Program.

The GHL establishes a pre-season estimate of acceptable annual harvests for the halibut fishery in Areas 2C and 3A. To accommodate limited growth of the charter fleet while approximating historical harvest levels, the GHL for each area was based on 125 percent of the average of 1995-99 charter harvest estimates, as reported by the Alaska Department of Fish and Game (ADF&G) Statewide Harvest Survey (SWHS). By weight, the GHLs equate to 13.05 percent of the combined charter and commercial quota in Area 2C or 1,432,000 lb net weight; and 14.11 percent of the combined charter and commercial quota in Area 3A or 3,650,000 lb net weight.

The GHLs are established annually in pounds and is responsive to reductions in stock abundance. In the event of a reduction in either area's halibut stocks *by at least 15 percent* below the average 1999-2000 as determined by the IPHC, the area GHL would be reduced incrementally in a stepwise fashion in proportion to the stock reduction. The GHL would be reduced by fixed percentages to account for the natural variability of halibut stocks and not require the adoption of a new GHL every year if the stock varies only slightly. If the halibut stock in Area 2C were to fall between 15 and 24 percent below its 1999-2000 average CEY, then the Area 2C GHL would be reduced by 15 percent from 1,432,000 lb to 1,217,200 lb. If it fell between 25 and 34 percent, then the GHL would be reduced by an additional 10

percent from 1,217,200 lb to 1,095,480 lb. If the stock abundance continued to decline by at least 10 percent increments, then it would be reduced by an additional 10 percent. Note that the commercial quotas would fluctuate directly with stock abundance. According to IPHC staff, the relative abundance between 2000 and 2005 is not estimated to have exceeded 15 percent (B. Leaman, pers. comm.).

If abundance returns to its pre-reduction level (the 1999-2000 average CEY), the GHL would be stepped back up by commensurate incremental percentage points to its initial level of 125 percent of the average of 1995-99 charter harvest estimates. However, if halibut stock abundance were to increase above its 1999-2000 average CEY, then the GHL would never exceed its initial GHLs. Setting the GHL at a maximum of 125 percent of the 1995-1999 harvest estimates was set to allow for limited growth of the charter fishery, but would effectively limit further growth at this level. The Council chose not to provide a mechanism to increase the GHL above this initial level if there were increases in the stock abundance. During deliberations, the Council clarified that its goal for the GHL was to provide a limit on the total amount of harvests in the guided fishery that would be designated as a fixed poundage based on an amount equal to 125 percent of the average 1998-1999 harvests. This amount was set higher than existing harvest levels to accommodate some future growth in the recreational sector. The Council stated its intent that the GHLs would not close the fishery, but instead would trigger other management measures in years following attainment of the GHL. The overall intent was to maintain a stable charter fishery season of historic length, using area- specific measures.

Once the IPHC determines the stock abundance for the year during its January meeting, NMFS will review the Commission's CEY relative to the baseline 1999-2000 average CEY, and announce the GHL for the year in the *Federal Register* by notice before the beginning of the charter fishery. If the GHL is exceeded in any year, then NMFS will notify the Council that the GHL has been exceeded as soon as that information is available.

History. The final rule established a GHL policy which specifies a level of harvests for charter halibut harvests. If the GHL is exceeded, then NMFS will notify the Council within thirty days of receiving information that the GHL has been exceeded. Upon such notification, the Council may initiate analysis of possible harvest reduction measures and NMFS may initiate subsequent rulemaking to reduce charter harvests. While the Council's preferred alternative included a suite of management measures tied to ranges of harvest reductions that were to be implemented when harvests exceeded the GHLs, the final rule did not implement the proposed management measures. The final rule did not prevent the Council from recommending management measures before the charter harvests exceeded a GHL, nor did it obligate the Council to take specific action if the GHL is exceeded. This GHL policy, as implemented, serves only to notify the Council that a specific level of charter harvests has been achieved.

The final rule is the result of ongoing efforts by the Council to address allocation concerns between the commercial IFQ halibut fishery and the charter fishery. The Council has discussed the expansion of the charter halibut fishery since 1993. In September 1997, the Council adopted two management actions affecting the halibut charter fishery, culminating more than 4 years of discussion, debate, public testimony, and analysis.

First, the Council adopted recording and reporting requirements for the halibut charter fishery. To implement this requirement, the Alaska Department of Fish and Game (ADF&G) Sport Fish Division, instituted a Saltwater Charter Vessel logbook (Logbook) in 1998. It complemented additional sportfish data collected by the State of Alaska (State) through the Statewide Harvest Survey (Harvest Survey), conducted annually since 1977, and the on-site (creel and catch sampling) surveys conducted separately by ADF&G in Southeast and Southcentral Alaska.

The Council's second management action recommended GHLs for the charter halibut fishery in Commission regulatory areas 2C and 3A. The GHLs were based on the charter sector receiving an allocation of 125 percent of its 1995 harvest. This amount was equivalent to 12.76 percent and 15.61 percent of the combined commercial/charter halibut quota in areas 2C and 3A, respectively.

The Council stated its intent that charter harvests in excess of the GHL would not lead to a mid-season closure of the fishery, but instead would trigger other management measures to take effect in years following attainment of the GHL. These measures would restrict the charter fishery and maintain harvests within the GHL allocation. The overall intent was to maintain a stable charter season of historic length, using area-specific harvest reduction measures. If end-of-season harvest data indicated that the charter sector likely would reach or exceed its area-specific GHL in the following season, NMFS would implement measures to slow down charter halibut harvest.

Given the one-year lag between the end of the fishing season and availability of that year's harvest data, management measures in response to the charter fleet's meeting or exceeding the GHL would take up to two years to become effective. However, the Council did not recommend specific management measures to be implemented by NMFS if the GHL were reached.

In December 1997, the NMFS Alaska Regional Administrator informed the Council that publishing the GHL as a regulation without specific management measures would have no regulatory effect on the charter fleet. Further, because the Council had not recommended specific management measures by which to limit harvests if the GHL were reached, no formal approval decision by the Secretary would be required for the Council's proposed GHL policy. Hence, a GHL proposed rule would not be developed and forwarded for review by the Secretary.

After being notified that its 1997 GHL policy recommendation would not be submitted for Secretarial review, the Council initiated a public process to develop potential harvest restrictions to implement if the GHL were exceeded. The Council formed a GHL Committee to recommend alternative management measures for analysis that would constrain charter harvests below the GHL. In April 1999, the Council identified alternatives for analysis.

In February 2000, after 7 years of discussing the charter halibut fishery, the Council adopted a redefined charter GHL and a system of management measures for recommendation to the Secretary. The Council's recommendation would have established a suite of varying harvest restrictions that would be triggered depending on the degree to which the GHL was exceeded. Once the GHL is reached or exceeded, these measures would be implemented by notice published in the Federal Register. Essentially, the Council's recommendation included a "framework" of restrictions that were explicitly designed to be implemented without proceeding through public notice and comment before becoming effective.

NOAA General Counsel (NOAA GC) assessed the proposed rule after its publication, on January 28, 2002 (67 FR 3867), in light of recent case law and notified NMFS that it had concerns about the proposed regulatory framework mechanism. After discussions with NOAA GC, NMFS sent a letter to the Council on April 2, 2002, informing the Council that "[t]he current framework cannot be implemented as conceived by the Council because the Administrative Procedures Act (APA) requires that any regulatory action have prior notice and opportunity for public comment before becoming effective."

The notification process described in the proposed rule contemplated compliance with the APA in establishing the framework of harvest restrictions that would be scaled to match the extent to which the charter fishery exceeded the GHL. This framework of potential restrictions, one or more of which would be automatically triggered depending on the level of GHL overage, was designed by the Council to minimize the time between exceeding a GHL and the implementation of one or more restrictions. Public

comment was specifically invited on the range of restrictions and the link between this range and the level that the charter fishery exceeded the GHL.

This process of implementing pre-conceived and non-discretionary restrictions by notice, pending GHL overage, however, would not have provided for additional public comment at the time of implementing a restriction. The NMFS letter to the Council indicated that this lack of additional public comment would not be consistent with the APA based on a review of the framework harvest restriction measures by NOAA GC.

The public comment requirement of the APA can be waived only for "good cause." The harvest reduction measures in the Council's 2001 preferred alternative likely could not be implemented under the "good cause" exemption of the APA. The APA provides for a "good cause" finding only when the agency finds that notice and opportunity for public comment would be impracticable, unnecessary, or contrary to the public interest (5 U.S.C. 553(b)(B)). These terms are narrowly defined. Because this "good cause" finding would need to be made at the time the harvest reduction measures are implemented, NMFS and NOAA GC could not guarantee in advance that a "good cause" finding would exist in every instance the GHL was exceeded and harvest reduction measures triggered. Accordingly, NOAA GC indicated that a strong likelihood existed that proposed and final rulemaking would be required under APA procedures when implementing any of the proposed harvest reduction measures. This requirement would effectively undermine the goal of the framework measures to expedite implementation of harvest restriction measures on the charter fishery.

NMFS presented this letter to the Council at its April 2002 meeting, but no action was taken. NMFS sent a second letter to the Council on September 6, 2002, which further clarified factors affecting that may affect the approval of the GHL program and suggested alternative ways to meet the Council's intent.

The September 6, 2002 letter noted that the proposed rule could be approved only if it were changed to explicitly provide for an opportunity for public comment before implementing any harvest reduction measures. This change would increase the amount of time between when the GHL is exceeded and implementing any harvest reduction measures, because the APA rulemaking process would require an analysis of alternatives to the proposed harvest reduction measures recommended by the Council under the requirements of the Regulatory Flexibility Act, the National Environmental Policy Act, Executive Order (E.O.) 12826 (which requires a Regulatory Impact Review), and other applicable laws.

This letter was discussed by the Council in October 2002. The Council encouraged NMFS to consult with NOAA GC to determine how best to implement the GHL. The Council indicated that its preferred course of action would be to implement the GHL policy as a rule and to develop possible harvest restriction measures as necessary at a later time through a separate analytical and rulemaking process. Under this scenario, the Council would undertake its usual process of forwarding recommendations to NMFS based on analysis of alternatives each time recreational guided harvests exceed the GHL.

NMFS and NOAA GC consulted and on December 2, 2002, NMFS informed the Council by letter that NMFS intended to proceed as recommended by the Council in October, with a final rule to implement the GHL policy without the associated harvest restriction measures. NMFS presented this letter to the Council at its December 2002 meeting. This letter noted that if the GHL were exceeded, subsequent harvest restrictions could be implemented as needed under normal APA rulemaking with the accompanying analyses. In other words, this final rule established the GHL policy and required NMFS to notify the Council when a GHL is exceeded which could serve as a trigger for subsequent rulemaking. Hence, the final rule (68 FR 47256) deviated from the proposed rule (67 FR 3867) by omitting all of the proposed restrictions. Appendix I reviews the development of the Council's GHL policy in more detail.

1.2 Problem Statement

The Council has discussed the expansion of the halibut charter fleet since September 1993 when concerns initially were voiced over localized depletion of the halibut resource and the potential reallocation of halibut from the IFQ longline fishery to the charter fishery. A surge in charter effort in the early 1990s in some small communities (e.g., Sitka) fueled this concern. The Council then endorsed a two-prong approach to mitigate the perceived impacts of increased guided charter halibut fishing. The first was to establish GHLs for Areas 2C and 3A; the second was to establish a process for developing local area management plans for coastal communities. These approaches are consistent with the Problem Statement first developed in 1995 and later revised. *The Council may wish to bring the 2000 Problem Statement up to date to reflect the implementation of the GHL and the interest in implementing measures to reduce charter halibut harvests to below the respective GHLs.* Bifurcation of the problem statement would allow the Council to address separately the problems in the fishery related to the GHL and local area issues.

2000 PROBLEM STATEMENT

The recent expansion of the halibut charter industry may make achievement of Magnuson-Stevens Act National Standards more difficult. Of concern is the Council's 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 notes the following areas of concern with respect to the recent growth of halibut charter operations:

1. Pressure by charter operations may be contributing to localized depletion in several areas.
2. 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.
3. As there is currently no limit on the annual harvest of halibut by charter operations, an open-ended reallocation from the commercial fishery 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 fleet of this open-ended reallocation may be substantial and could be magnified by the IFQ program.
4. In some areas, community stability may be affected as traditional sport, subsistence, and commercial 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.
5. Information is lacking on the socioeconomic composition of the current charter industry. Information is needed that tracks: (1) the effort and harvest of individual charter operations; and (2) changes in business patterns.
6. The need for reliable harvest data will increase as the magnitude of harvest expands in the charter sector.

1.3 Description of the Alternatives

In October 2005, the Council reviewed ADF&G Sport Fish Division data that indicated that the GHLs were exceeded in both Areas 2C and 3A in 2004. In conformance with its 2000 policy to implement a suite of management measures selected to attain a certain level of harvest reduction, the Council identified a range of alternatives for each area. The alternatives for each area are based on the 2000 suite of proposed management measures that were developed over the course of seven separate meetings of the GHL Committee, Advisory Panel, and Council (Appendix II).

When it adopted these alternatives for analysis, the Council noted that the alternatives are inclusive of the individual components that comprise each alternative, and that individual components would not be

selected as its preferred alternative. After reviewing this draft analysis, the Council may wish to consider whether it wishes to restrict its flexibility in that regard. The following analysis contains assessments of the impacts of the individual components of each alternative, along with the sum of the effects, and would allow greater flexibility by the Council in selecting its preferred alternative for each area.

1.3.1 Alternative 1. No action

Taking no action would not implement management measures to lower charter halibut harvests below the GHLs, as outlined in the Council's 2000 GHL policy.

The no action alternative includes pending action by the State of Alaska to limit charter halibut harvests below the GHLs. On December 29, 2005, the Alaska Board of Fisheries (Board) agreed to an agenda change request for its March 17–25, 2006 meeting in Anchorage to consider proposals submitted by ADF&G. Proposed action in the charter (all species) fisheries in Southeast and Southcentral Alaska would: (1) limit the number of lines to the number of customers onboard the charter vessel, and (2) prohibit retention of fish caught by skipper/crew when customers are onboard the charter vessel. If adopted by the Board, these measures would be implemented for the 2006 charter season. The Board action is scheduled to occur after release of the public review draft of this analysis, and will not directly account for State action. However, a decision by the Board is scheduled prior to Council final action scheduled for April 2006.

1.3.2 Alternative 2. Implement management measures to lower charter halibut harvests below the GHL.

Area 2C: One trip per day, no harvest by skipper and crew, and annual limit of 6 fish.
Area 3A: One trip per day

Alternative 2 is based on measures estimated by staff in 1999 to attain the level of harvest reductions necessary to reduce charter halibut harvests to below the GHLs. In Area 2C, 2004 charter halibut harvests exceeded the GHL for that area by 22 percent. Therefore, the measures in Alternative 2 for Area 2C correspond to those associated with reducing harvest between 20 and 30 percent in the Council's 2000 GHL policy (Appendix II). In Area 3A, 2004 charter halibut harvests exceeded the GHL for that area by 1 percent. Therefore, the measures in Alternative 2 for Area 3A correspond to those associated with reducing harvest < 10 percent in the Council's 2000 GHL policy.

As directed by the Council when it identified the alternatives for analysis in October 2005, all of the measures for each area would be implemented, and would not be chosen from among them. *However, the Council may change this policy upon review of the analysis.*

1.3.3 Alternative 3. Implement management measures to lower charter halibut harvests below the GHL.

Area 2C: One trip per day, no harvest by skipper and crew, and annual limit of 5 fish.
Area 3A: One trip per day, no harvest by skipper and crew

Alternative 3 was added as an alternative to allow more flexibility to the Council in the event that the 1999 staff estimates of harvest reductions did not meet current conditions in the fishery. It is based on measures estimated to achieve the next tier of harvest reductions as outlined in Appendix II. The measures in Alternative 3 for Area 2C correspond to those associated with reducing harvest between 20 and 30 percent from the Council's 2000 GHL policy (Appendix II). The measures under Alternative 3

correspond to those associated with reducing harvest between 30 and 40 percent 10 percent in Area 2C and between 10 and 20 percent in Area 3A.

1.4 Probable Environmental Impacts

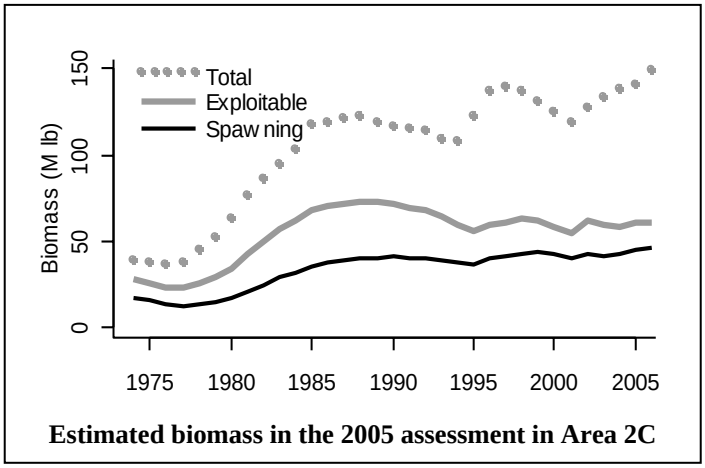
1.4.1 Overview

An environmental assessment (EA) is required by NEPA to determine whether the actions considered will result in significant impact on the human environment. If the action is determined not to be significant, the EA and resulting finding of no significant impact (FONSI) would be the final environmental documents required by NEPA. An environmental impact statement (EIS) would be prepared for major Federal actions if the actions are determined to significantly affect the human environment.

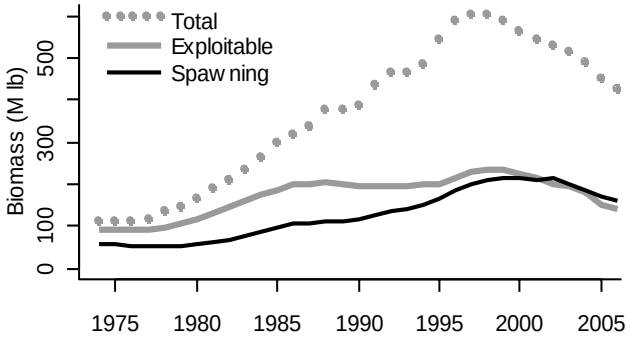
The environmental impacts generally associated with fishery management actions are effects resulting from (1) harvest of fish stocks, which may result in changes in food availability to predators and scavengers, changes in the population structure of target fish stocks, and changes in the marine ecosystem community structure; (2) changes in the physical and biological structure of the marine environment as a result of fishing practices (e.g., effects of gear use and fish processing discards); and (3) Alaska Groundfish Fisheries (NMFS 2004).

1.4.2 Potential Impacts on Pacific Halibut Stocks

Abundance. Each year the IPHC staff assesses the abundance and potential yield of Pacific halibut using all available data from the commercial fishery and scientific surveys. The exploitable biomass (yield) is estimated to set quotas for ten regulatory areas by fitting a detailed population model to the data from that area. A biological target level for total removals is then calculated by multiplying a fixed harvest rate—presently 22.5% for these areas—to the estimate of exploitable biomass. This target level is called the "constant exploitation yield" (CEY or quota) for that area in the coming year. The CEY therefore changes annually in proportion to the exploitable biomass. Each CEY represents the total allowable harvest (in lb) for that area, which cannot be exceeded. The IPHC then estimates the sport and personal use/subsistence harvests and wastage and bycatch mortalities for each area. These are subtracted from the CEY and the remainder may be set as the catch quota for each area's directed commercial setline (longline) fishery.



Estimated biomass in the 2005 assessment in Area 2C



Estimated biomass in the 2005 assessment in Area 3A (Source: IPHC 2005)

The IPHC takes into account all removals of halibut from the North Pacific and Bering Sea within the Exclusive Economic Zones of the U.S. and Canada. Fishing for halibut does

occur off the coasts of Japan and Russia, but those removals are not included in the IPHC population assessment. The IPHC stock assessment is based on biological and fishery data obtained through port sampling, IPHC and National Marine Fisheries Service surveys, and special projects. Since the 1930s, biologists have collected lengths, otoliths for aging and catch per unit of effort data. More recently, IPHC surveys have also collected data on gender composition and maturity. Logbook information is supplied by the fishers either through interviews by IPHC staff in the landing ports or via mail post-season.

Estimated Pacific halibut biomass (millions of lb) (IPHC 2005)

	2005 Biomass 2004 Assessment	2005 Biomass 2005 Assessment	2006 Biomass 2005 Assessment
Area 2C	66	60	61
Area 3A	146	150	143

The most recent halibut stock assessment was conducted by the IPHC in December 2005. The halibut resource is considered to be healthy, with total catch near record levels. The estimate of coastwide exploitable biomass from the 2005 assessment is 382 million net pounds (IPHC 2005). Estimated biomass at the beginning of 2006 is 45 million pounds because of strong estimated incoming recruitment. The estimates of abundance are little changed in most areas. The 2006 Area 2C estimate is down by about 10% because of a lower commercial CPUE in 2005 and another low survey CPUE in 2005 following last year's 20% drop.

Fisheries. Three major cultural use traditions occur in Alaska for halibut: commercial, sport, and subsistence. The distinctions between them are clouded by differing legal and cultural interpretations of subsistence by both resource managers and users, although current gear restrictions may be used to post facto assign a user category to a landing. The IPHC did not have a formal regulatory definition of subsistence or retained catch 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. It deducts separate estimates for "personal use" and sport fishing in Alaska (IPHC 2001). In 2002, the IPHC adopted regulatory language defining subsistence ("Customary and Traditional Fishing in Alaska"). Regulations prepared by NMFS recognize and define a legal subsistence fishery for Pacific halibut in Alaska (70 FR 16742, April 1, 2005).

The commercial fishing fleet is diverse, using various types of longline gear and strategies. The directed commercial fishery is conducted by hook and line gear only. Fish begin recruiting to this gear type at approximately 60 cm in length, but the commercial minimum size limit is 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 to 121 kg. The average size in the commercial catch in 1996 was between 9 and 20 kg depending on the area caught, and the average age was 12 years old (Forsberg, J., Unpub [1997]).

Interception of juvenile halibut (~30 cm and greater) often occurs in trawl fisheries targeting other groundfish species (such as rock sole, pollock, yellowfin sole, and Pacific cod). Incidental catch of halibut also occurs in groundfish hook and line and pot fisheries. Regulations in both Canada and U.S. currently dictate that all halibut caught incidentally must be discarded regardless of whether the fish is living or dead. These fisheries take place throughout the range of halibut and throughout most of the year. 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 has remained under 0.5 million pounds annually. Bycatch mortality accounts for the halibut that die from being caught in other fisheries. The 2005 bycatch mortality estimate of 12.1 million pounds is the lowest since 1987 but similar to the estimates for the last several years (IPHC 2005).

The species is fully utilized. The Council adopted an individual quota (IFQ) system, which was implemented in 1995. This enables a vessel to fish anytime between late February/early March to mid-November. The removals of halibut off the Pacific coast totaled 98 million pounds in 2005, similar to the removals since 1997, which have totaled above 90 million pounds (IPHC 2005). The commercial fishery was the predominant sector for halibut removals, taking approximately 71 percent of total halibut removals in each of the two areas, compared with 81 and 77 percent in 1999. Charter halibut harvests amounted to approximately 12.1 and 10.4 percent of total halibut removals in Areas 2C and 3A, compared with 7 percent and 9 percent in 1999. Non-guided sport harvest totaled 8.2 and 5.5 percent of 2005 removals, compared with 7 and 5 percent in 1999, respectively. Bycatch, personal use (including subsistence), and wastage comprise the remainders.

The outlook for the stock biomass over the near future is for a decline from the record high levels of recent years until increased recruitment to the stock occurs. The IPHC commercial quota for 2005 in Alaska totaled 59.24 million pounds. Staff recommendations for 2006 total 55.26. The 2005 quotas for Areas 2C and 3A were 10.93 and 25.47 million pounds; staff recommendations for 2006 are 13.22 and 10.63 million pounds. The IPHC will set 2006 quotas in late January 2006.

Additional descriptive information on surveys, stock assessments, and research on Pacific halibut considered by the Council during its deliberation can be found in detail in the 2005 Report of Assessment and Research Activities (IPHC 2005). Further details on the management, production history, and life history of Pacific halibut are described in Section 3.7.2 of the SEIS (NMFS 1998a) and in this analysis.

There are no significant impacts expected from the proposed alternatives on the halibut stock because the IPHC factors in all resource removals in the halibut stock assessment when setting annual catch limits.

Summary. 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 halibut population. The IPHC sets halibut harvests in regulatory areas in proportion to abundance. This harvest philosophy protects against over harvest 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 for the resource as a whole. Ultimately, counter migration and local movement tend to fill in areas with low halibut density, although continued high exploitation will maintain local depletion. However, estimates of biomass and rates of local movement are not available to manage small areas.

As described by Clark and Hare (2005), the biological target level for total removals is calculated by applying a fixed harvest rate to the estimate of exploitable biomass. This target level is called the "constant exploitation yield" or CEY for that area in the coming year. The corresponding target level for catches in directed fisheries subject to allocation is called the fishery CEY. It comprises the commercial setline catch in all areas. It is calculated by subtracting from the total CEY, an estimate of all unallocated removals—bycatch of legal-sized fish, wastage of legal sized fish in the halibut fishery, fish taken for personal use, and sport (guided and unguided) catch. The proposed actions are intended to limit the amount of halibut removed by one of a number of sectors whose removals are monitored and accounted for by the IPHC in setting annual limits of halibut removals. Therefore, the proposed actions would not result in changes in food availability to predators and scavengers, changes in the population structure of target fish stocks, and changes in the marine ecosystem community structure

Proposed actions would affect individual harvest levels and fishing practices of individuals participating in the charter halibut fishery. Changes to fishing practices are limited to the number of trips allowed per vessel per day, which individuals may retain halibut and the amount of their individual harvests. Proposed measures do not affect allowable fishing gear or locations of fishing effort. Therefore, the proposed

actions would not result in changes in the physical and biological structure of the marine environment as a result of fishing practices

There are no expected impacts upon the Pacific halibut stocks by the proposed action. Halibut stocks are conservatively managed by the IPHC. The only change anticipated by adoption of either Alternatives 2 or 3 would be a decrease in the amount harvested by the halibut charter sector and an increase by non-charter users. Annually published regulations define the Pacific halibut fishery (see 70 FR 9242 for 2005 regulations). The halibut population assessment is prepared annually by the International Pacific Halibut Commission (IPHC 2005) and is incorporated here by reference. Total setline CEY (constant exploitation yield at a harvest rate of 22.5% for Areas 2C and 3A) is still estimated to be high, at just under 74 million pounds, which indicates the halibut resource is very robust.

These alternatives address resource allocation issues. Regardless of the percentage of the halibut biomass taken by each sector, no adverse impacts to the halibut resource or the benthic environment would be expected. In summary, none of the alternatives would be expected to have a significant impact on the environment.

1.4.2.1 Potential Impacts on Groundfish Bycatch

"Bycatch" in the charter halibut fishery includes 12 species of rockfishes, Pacific cod, and ling cod. The primary groundfish bycatch taken in the halibut charter fishery include limited amounts of Pacific cod and rockfishes (primarily yelloweye and black), with lesser amounts of spiny dogfish, salmon shark, and sablefish. State-managed species such as king salmon and ling cod, along with rockfishes, are also taken. These species may be listed as having been caught on a halibut targeted trip, but they may become the target species during the trip because the halibut bag limits have been reached. Additionally, the target species may change because halibut fishing during the particular trip is poor and the operator wants to satisfy the client by landing any species (S. Meyer, pers. comm.). Therefore, ADF&G staff recommended that it is not possible to assign groundfish catches to the charter halibut fishery; however, Table 1 identifies rockfish and lingcod harvests associated with charter bottomfish effort for 1996-2004.

Table 1. Estimated rockfish and lingcod harvest (number of fish) by charter anglers by area and year. Information from the annual mail survey of licensed sport anglers (aka Statewide Harvest Survey).

	IPHC 2C		IPHC 3A	
Year	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

Source: ADF&G, Statewide Harvest Survey data.

The issue of what is 'bycatch' is complex. Too often fish that are labeled bycatch are actually targeted, in both commercial and recreational fisheries. For example, in Southcentral Alaska, the sport fishery port samplers ask the anglers and charter skippers what species they were targeting. While they may answer 'halibut' (because that was the species of choice), they may have specifically targeted lingcod for a

portion of their trip because halibut fishing was poor. Commercial fishermen often 'top off' with bycatch species for which the directed fishery is closed.

The IPHC has been observing declines in halibut recruitment and predicts a decrease in the exploitable biomass in the long term. The harvest of state-managed groundfish (and in some cases, salmon) 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 catch salmon when the salmon returns are strong. No in-depth analysis of these data has been done, and it may be impossible given the lack of information. It is likely that harvest of state-managed species will increase if the halibut stock declines in abundance, with or without the proposed alternatives.

In summary, the interaction of halibut catch and harvest of other species is poorly documented and not well understood. Any discussion will be highly speculative. This information is insufficient to predict direct effects of charter halibut harvest. Other species taken incidentally in sport charter halibut fisheries include sculpins, arrowtooth flounder and several other flatfishes, pollock, spiny dogfish, sleeper shark, salmon shark, and greenling. No harvest estimates are available for these species.

1.4.2.2 Potential Impacts on Habitat

No information is available on the impacts of the charter fishery, the sport sector in general, or even the commercial halibut fishery. The following summary of Section 4.3.4.1 of the SEIS (NMFS 2005) which is incorporated by reference may approximate the effects of commercial groundfish (not including halibut) longline fishing on substrate and benthic habitat.

All the marine waters and benthic substrates in the management areas comprise the habitat of groundfish and halibut species. Convention waters constitute all waters in which halibut occur, therefore the adjacent marine waters outside the groundfish EEZ, adjacent State waters, shoreline, freshwater inflows, and atmosphere above the waters, constitutes habitat for prey species, other life stages, and species that move in and out of, or interact with, the groundfish species are included therein. Distinctive aspects of the habitat include water depth, substrate composition, substrate infauna, light penetration, water chemistry (salinity, temperature, nutrients, sediment load, color, etc.), currents, tidal action, phytoplankton and zooplankton production, associated species, natural disturbance regimes, and the seasonal variability of each aspect. Substrate types include bedrock, cobbles, sand, shale, mud, silt, and various combinations of organic material and invertebrates which may be termed biological substrate. Biological substrates present in these management areas include corals, tunicates, mussel beds, tube worms. Biological substrate has the aspect of ecological state (from pioneer to climax) in addition to the organic and inorganic components. Ecological state is heavily dependant on natural and anthropogenic disturbance regimes. The BSAI and GOA Groundfish FMPs (NPFMC 1995, 1994) contain some descriptions of habitat preferences of the target species and projects are underway to systematically present biological requirements for each life history stage that are known (NMFS-Council in progress). Much remains to be learned about habitat requirements for most target species.

The proposed action would not increase the amount of harvest, the intensity of harvest, or the location of harvest, therefore, this action is presumed not to increase the impacts of the fishery to EFH. Based on the above, this action in the context of the fishery as a whole will not adverse affect EFH for managed species. As a result of this determination, an EFH consultation is not required.

1.4.2.3 Impacts of fishing gear on habitat and EFH

There is little applicability of the impacts of commercial gear to the impacts of sport gear. And there may be limited applicability of groundfish longlining to halibut longlining since Pacific cod favor soft, muddy

bottom habitat, rockfish favor rock piles and pinnacles, and halibut are associated with harder bottom. The above summary is presented to provide a sense of the proportion of the potential impacts on habitat by the charter and commercial sectors since the charter sector takes less than 10% of total removals compared with 80% of total removals by the commercial sector in Areas 2C and 3A. Rod and reel gear are believed to have a minor impact on the bottom compared with longline gear.

There are no known significant impacts of the halibut charter fishery on marine habitat since there are no known significant changes in fishing practices as a result of the preferred alternative.

1.4.3 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. The program is administered jointly by the NMFS for most marine mammal species, marine and anadromous fish species, and marine plants species and by the 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 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, which were listed in 1969 under the Endangered Species Conservation Act and carried forward as endangered under the ESA, have not received critical habitat designations.

Species listed as endangered and threatened under the ESA that may be present in the Federal waters off Alaska include:

Common Name	Scientific Name	ESA Status
Northern Right Whale	*Balaena glacialis*	Endangered
Bowhead Whale [1]	*Balaena mysticetus*	Endangered
Sei Whale	*Balaenoptera borealis*	Endangered
Blue Whale	*Balaenoptera musculus*	Endangered
Fin Whale	*Balaenoptera physalus*	Endangered
Humpback Whale	*Megaptera novaeangliae*	Endangered
Sperm Whale	*Physeter macrocephalus*	Endangered
Snake River Sockeye Salmon	*Onchorynchus nerka*	Endangered
Short-tailed Albatross	*Phoebaotria albatrus*	Endangered
Steller Sea Lion	*Eumetopias jubatus*	Endangered and Threatened [2]
Snake River Fall Chinook Salmon	*Onchorynchus tshawytscha*	Threatened
Snake River Spring/Summer Chinook Salmon	*Onchorynchus tshawytscha*	Threatened
Puget Sound Chinook Salmon	*Onchorynchus tshawytscha*	Threatened
Lower Columbia River Chinook Salmon	*Onchorynchus tshawytscha*	Threatened
Upper Willamette River Chinook Salmon	*Onchorynchus tshawytscha*	Threatened
Upper Columbia River Spring Chinook Salmon	*Onchorynchus tshawytscha*	Endangered
Upper Columbia River Steelhead	*Onchorynchus mykiss*	Endangered
Snake River Basin Steelhead	*Onchorynchus mykiss*	Threatened
Lower Columbia River Steelhead	*Onchorynchus mykiss*	Threatened
Upper Willamette River Steelhead	*Onchorynchus mykiss*	Threatened
Middle Columbia River Steelhead	*Onchorynchus mykiss*	Threatened
Spectacled Eider	*Somateria fishcheri*	Threatened
Steller Eider	*Polysticta stelleri*	Threatened

[1] The bowhead whale is present in the Bering Sea area only.
[2] Steller sea lion are listed as endangered west of Cape Suckling and threatened east of Cape Suckling.

Short-tailed albatross. In 1997, NMFS initiated a Section 7 consultation with USFWS on the effects of the Pacific halibut fishery off Alaska on the short-tailed albatross. USFWS issued a Biological Opinion in 1998 that concluded that the Pacific 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 Pacific halibut fisheries. Under the authority of ESA, USFWS identified non-discretionary reasonable and prudent measures that NMFS must implement to minimize the impacts of any incidental take.

After reviewing the current status of the listed species, designated critical habitat, and the potential effects of the Pacific halibut fisheries, NMFS Sustainable Fisheries concludes that this fishery off Alaska (which uses gear unlikely to generate bycatch of finfish, seabirds or marine mammals) will 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 comprise a measurable portion of their diet. No interactions between the charter halibut fisheries and any listed species have been reported.

1.4.4 Impacts on Seabirds

Because halibut fisheries are Federally regulated activities, any negative affects of the fisheries on listed species or critical habitat and any takings[5] that may occur are subject to ESA Section 7 consultation. NMFS initiates the consultation and the resulting biological opinions are issued to NMFS. 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 expected to occur under normal promulgation of the action, an incidental take statement is appended to the biological opinion.

In addition to those 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, murres, 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.

1.4.5 Impacts on Marine Mammals

The charter halibut fishery in the EEZ of Alaska is classified as Category III fishery under the Marine Mammal Protection Act. A fishery that interacts only with non-strategic stocks and whose level of take has insignificant impact on the stocks is placed in Category III. No takes of marine mammals by the charter halibut fishery off Alaska have been reported. Marine mammals are not taken in halibut charter fisheries and therefore, none of the alternatives are expected to have a significant impact on marine mammals.

1.4.6 Impacts on Biodiversity and the Ecosystem

Pacific halibut is one of four groundfish, in terms of biomass as measured by the trawl surveys, which dominate the Gulf of Alaska ecosystem (S. Gaichas, pers. comm.). The others include arrowtooth flounder, walleye pollock, and Pacific cod (in order of importance). Pacific halibut is an apex predator in

[5] The term "take" under the ESA means "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or ollect, or attempt to engage in any such conduct" (16 U.S.C. '1538(a)(1)(B).

the GOA which seems rather dependent on pollock stocks as pollock comprised over half of adult halibut's diet composition measured in the early 1990s. Most mortality on halibut is from fishing because they have few natural predators, especially as adults.

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.

The proposed action would have no significant impact on the environment. The main consequence of the proposed alternatives is to control halibut charter fisheries in IPHC Areas 2C and 3A. The economic effects of the proposed alternatives are detailed in Section 2.

Based on current information, it is reasonable to assume that the effect on the halibut resource of implementing management measures to reduce charter halibut harvests, while allowing all other fishery removals to increase while staying within the quota set by the IPHC, is negligible. The IPHC has determined that resource conservation is not a factor in such allocative decisions.

1.4.7 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 Section 2. Section 2 contains a Regulatory Impact Review (RIR), conducted to review the costs and benefits of the alternatives in accordance with the requirements of E.O. 12866. Section 3 contains an Initial Regulatory Flexibility Analysis, 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 Regulatory Flexibility Act.

Before 1973, all halibut fishing, including sport, was governed by commercial fishing regulations (IPHC 1998). Sport catches were usually incidental to saltwater sportfishing for salmon. As the sport catch increased, the IPHC clarified its authority to manage the sport halibut fishery and adopted regulations for the "sport" fishery in 1973, including an 8-month season with limitations on the individual's daily catch and gear (Williams 1999). Since then, the popularity of bottomfish has surged and halibut sport fishing has supported a charter industry. Sport regulations have grown in complexity, with increased involvement by the State of Alaska, the Council, and NOAA Fisheries Service. Estimates of halibut sport biomass are obtained through ADF&G creel census, postal surveys (SWHS), and a mandatory charterboat logbook program (SCVL) which continued from 1998 through 2001.

Marine recreational fisheries are popular in Southcentral Alaska, supporting approximately 486,000 angler-days of effort for all finfish species (2000 estimate) (http://www.sf.adfg.state.ak.us/region2/groundfish/gfhome.cfm). An angler day equals one angler fishing for any part of a day. Effort has more than doubled in the last 20 years. A large portion of this recreational fishing effort is directed at Pacific halibut.

1.4.7.1 Fishing Seasons and reporting requirements

State of Alaska Regulations

- Most anglers 16-59 years old must have a current year's Alaska sport fishing license. There are two exceptions for Alaska residents:
  - Alaska resident anglers 60 and older must have a free ADF&G Permanent ID Card.
  - Alaska resident disabled veterans (50% or greater) must have a free ADF&G Disabled Veteran's Permanent ID Card.
- Resident and non-resident anglers younger than 16 do not need a sport fishing license.
- The open season for halibut is February 1-December 31.
- The bag limit is 2 fish daily and 4 in possession.
- There is no size limit.
- 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.
- Possession of sport-caught halibut:
  - a) No person may possess sport-caught halibut aboard a vessel when other fish or shellfish aboard the vessel are destined for sale, trade, or barter; and
  - b) until brought back to shore and offloaded, no person may fillet, mutilate, or otherwise disfigure a halibut in any manner that prevents the determination of the number of fish caught or possessed.

1.4.7.2 Summary of recent landings

As reported by the IPHC (2005), the Alaska sport harvest estimates are derived from a statewide postal survey in conjunction with creel surveys at points of landing. The estimates usually lag by one year and are estimated from a combination of linear projections of halibut harvested in the previous five years, current average weights, and current in-season data. Recent landings in the charter halibut fishery for Areas 2C and 3A are presented in Section 2.5 of this analysis. In summary, charter halibut harvests between 1995 and 2004 increased by more than 75 percent in Area 2C (from 986,000 to 1,750,000 lbs) and nearly 30 percent in Area 3A (from 2,845,000 to 3,668,000 lbs). Overall, these harvests represent 12.1 and 10.4 percent, respectively, of total halibut removals in Areas 2C and 3A reported by the IPHC (2005) and ADF&G (S. Meyer, pers. comm.). This compares with 11.9 and 9.1 percent in 1998 (NPFMC 2003).

1.4.8 Description of Fishery Participants

Charter halibut fishery participants for Areas 2C and 3A are presented in Section 2.5 of this analysis. In summary, the number of vessels active in the 2004 charter halibut fishery totaled 624 and 532 in Areas 2C and 3A, respectively. Each vessel carries a skipper and some carry a mate; therefore an upper estimate of the number of crew is 1,248 and 1,064, respectively. The number of clients in 2004 totaled 67,803 and 116,670, respectively. Table 2 provides total number of sport fishing licenses sold by vendors within each IPHC Area (2C and 3A), 1993-2004. However, this data does not indicate the area in which fishing occurred, as indicating in the final column of the table.

Table 2. Total number of sport fishing licenses sold by vendors within each IPHC Area (2C and 3A), 1993-2004, by residency. *Note that numbers of licenses sold by internet/mail are provided as well for reference purposes, as these license sales can NOT be assigned to a geographic location.* Sales by vendors in other locations throughout the state (outside of IPHC areas 2C and 3A) are NOT included (except the internet/mail sales).

	Sport fishing licenses sold by vendors in **IPHC 2C**				Sport fishing licenses sold by vendors in **IPHC 3A**				Internet/Mail Sales (all residency types) – unknown location
Year	Alaska Residents	Non-residents	Unknown Residency	Total	Alaska Residents	Non-residents	Unknown Residency	Total	
1993	27,478	50,932	2,101	80,511	38,075	51,561	2,838	92,474	984
1994	27,685	60,350	2,193	90,228	40,116	59,091	1,650	100,857	1,075
1995	26,982	63,881	77	90,940	39,382	63,834	58	103,274	1,151
1996	26,725	67,896	56	94,677	40,278	65,947	66	106,291	1,261
1997	26,724	71,515	26	98,265	38,799	67,552	34	106,385	1,518
1998	25,241	71,789	49	97,079	37,306	69,447	56	106,809	1,699
1999	24,517	76,228	56	100,801	37,025	75,159	31	112,215	2,092
2000	24,173	81,030	42	105,245	38,534	75,526	71	114,131	4,972
2001	23,743	79,503	95	103,341	39,192	76,996	48	116,236	7,712
2002	22,976	83,540	45	106,561	39,786	78,491	40	118,317	9,350
2003	23,169	82,533	125	105,827	39,828	76,220	63	116,111	11,233
2004	23,363	98,490	5	121,858	40,833	85,424	3	126,260	14,211

Summary. The expected impacts of the preferred alternative on the charter fishery will be a trade-off between the negative economic effects of having an upper limit on unlimited growth (without purchasing quota from the commercial sector) and the positive effects for current participants of having a form of limited entry system on new charter participants (new entrants must purchase QS before they are allowed to enter the fishery). The preferred alternative will have a negative effect on those entering the fishery because they will have to purchase QS from either commercial or charter QS holders. Sport anglers fishing on charter vessels may bear the cost of that expense through increased charter fees.

1.4.9 Cumulative Effects

Effects of an action can be direct or indirect. According to the definition in the Council on Environmental Quality (CEQ) regulations (40CFR1500.1) 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, according to "The NEPA Book" (Bass et al. 2001, p. 55), "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."

The alternatives under consideration in this EA/RIR/IRFA 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 harvest 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.

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 the Council preferred alternative will be delayed to a future action. The NMFS preferred alternative will have no effect on any halibut fishery sector nor on the halibut resource. No reasonably foreseeable future actions would have impacts that would cause significant cumulative effects when combined with the effects from this action.

2.0 REGULATORY IMPACT REVIEW

2.1 Introduction

At its October 2005 meeting, the Council reviewed final 2004 halibut charter harvest estimates from the Alaska Department of Fish and Game (ADF&G) Sport Fish Division. The data indicated that the GHLs had been exceeded by 22 percent in Area 2C and 1 percent in Area 3A. In response to the new information, the Council initiated an analysis that includes a proposed action to lower halibut charter harvests below the GHLs. At its December 2005 meeting, the Council elected to reexamine its preferred alternative for managing the charter halibut fishery. Instead of proceeding with its April 2001 preferred alternative to implement a quota share program based on past participation in 1998 or 1999 and 2000, the Council elected to appoint a stakeholder committee to examine a suite of management operation proposed by ADF&G prior to any further action. Included in this suite of options are the measures contained in this document which were approved for analysis in October 2005. These measures derive from the Council's 2000 analysis for measures that would result in lower charter halibut harvests.

On December 28, 2005, ADF&G asked the Alaska Board of Fisheries to consider restricting charter fleet harvest by preventing charter vessel crew members from retaining any species of fish while clients are onboard and limiting the number of lines in the water at any given time to the number of paying clients on board. If adopted, the expected effect would be similar to that described in Section 2.6.3.

For each IPHC Area, the Council in considering three alternative actions if the charter fleet exceeds the area GHL:

For Area 2C:

- Alternative 1. No action
- Alternative 2. Limit vessels to one trip per day, prohibit harvest by skipper and crew, and set an annual catch limit of six fish for individual clients.[6]
- Alternative 3. Limit vessels to one trip per day, prohibit harvest by skipper and crew, and set an annual catch limit of five fish for individual clients.

For Area 3A:

- Alternative 1. No action
- Alternative 2. Limit vessels to one trip per day.
- Alternative 3. Limit vessels to one trip per day and prohibit harvest by skipper and crew.

2.2 Purpose of the Regulatory Impact Review

The preparation of a Regulatory Impact Review (RIR) is required under Presidential Executive Order (E.O.) 12866 (58 FR 51735: October 4, 1993). The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following Statement from the E.O.:

> *In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and Benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nonetheless essential to consider. Further, in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.*

E.O. 12866 requires that the Office of Management and Budget (OMB) review proposed regulatory programs that are considered to be "significant." A "significant regulatory action" is one likely to:

- Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, local or tribal governments or communities;
- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

[6] When not outlining the full text of specific alternatives this report uses the term "crew harvest" to denote harvest by skippers, deck hands, and others working on charter vessels.

- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

The key elements of a RIR include:

- A description of the management objectives (see Section 1.1);
- A description of the fishery (Section 2.3);
- A statement of the problem (Section 2.4);
- A description of each selected alternative, including the "no action" alternative (see Section 2.7); and
- An economic analysis of the expected effects of each selected alternative relative to the baseline (Section 2.7).

In addition, this document includes an analysis of the effect of each alternative management measure (Section 2.6), a Regulatory Flexibility Analysis (Section 3.0), and a discussion of other applicable laws (Section 4.0).

2.3 Description of the Fishery

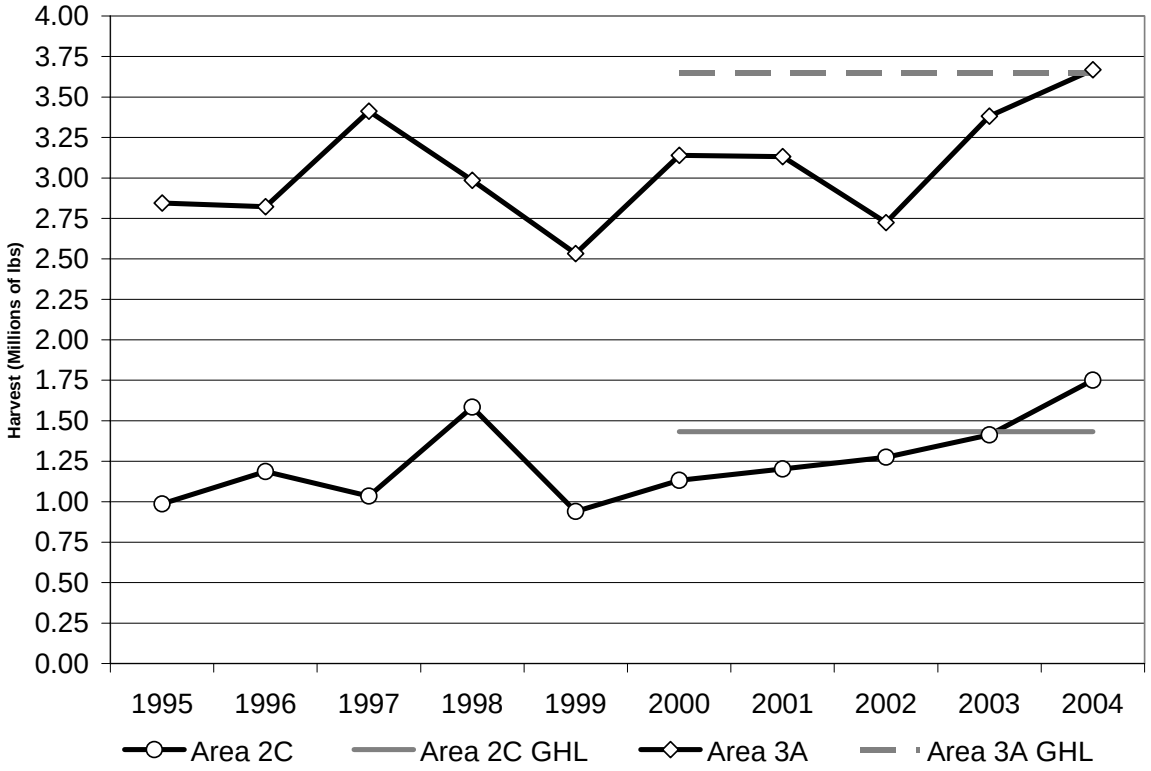
The number of halibut charter vessels participating in the Area 2C and 3A fisheries were 624 and 532, respectively, according to 2004 ADF&G logbook data. The charter fleet is a fairly homogeneous group with similar operating characteristics and vessel sizes. The exceptions are a few larger, 'headboat' style vessels, and several vessels that are operated by lodges, which offer accommodations as well as an assortment of visitor activities. Nearly all of the vessels are 25 to 50 ft. in length and carry up to six paying fishermen each. Larger vessels can carry a dozen passengers or more (NPFMC 2005).

2.4 Statement of the Problem

At its October 2005 meeting, the Council reviewed final 2004 halibut charter harvest estimates from the ADF&G Sport Fish Division. The data indicated that the GHLs had been exceeded by 22 percent in Area 2C and 1 percent in Area 3A (see Figure 2). In response to the new information, the Council initiated an analysis that includes a proposed action to lower halibut charter harvests below the GHLs. The proposed action derives from the Council's 2000 analysis for measures that would result in lower charter halibut harvests.

The purpose of the proposed action is to lower charter halibut harvests in IPHC Regulatory Areas 2C and 3A to below area GHLs. In 2000, The Council adopted GHLs for the IPHC areas to address allocation issues between the guided sport sector and other users of the halibut resource. The GHLs are intended to stop the open-ended reallocation between commercial and guided sport sectors. The Council remains concerned that over time allocation conflicts between sectors may resurface, and that overcapitalization in the guided sport fleet may have a negative impact on both guided sport operators and anglers.

Figure 2. Charter Fleet Halibut Harvests by Area and Year



Source: ADF&G, Statewide Harvest Survey Data 1995-2004, 2005.

2.5 Baseline Analytical Data

Baseline data for this analysis come from the ADF&G's Logbook program and the Statewide Harvest Survey (SWHS) program. In addition, the analysts conducted key informant interviews with a number of charter industry participants in IPHC Area 2C and IPHC Area 3A. These interviews are discussed in Section 2.6.2.

The number and total weight of charter harvested halibut increased in Area 2C and Area 3A between 1995 and 2004. Table 3 shows estimated Pacific halibut harvest (number of fish, average net weight, and biomass) by charter anglers by area and year. This information represents a combination of total estimated Pacific halibut harvest obtained from the SWHS and on-site catch or creel sampling programs conducted in Areas 2C and 3A. While the year to year halibut harvest and rate of change in the harvest are highly variable, the Area 2C harvest is now at 122.2 percent of the 1.432 million pound GHL established in February 2000. In 2004, the charter industry in Area 3A harvested 100.5 percent of a 3.65 million pound GHL.

Table 3. Charter Halibut Harvest, 1995-2004

Year	IPHC Area 2C				IPHC Area 3A			
	Charter-Harvested Halibut	Average Net Weight (lbs) per Halibut	Total Charter Halibut Harvest (M lbs)	Rate of Change from Previous Year[7]	Charter-Harvested Halibut	Average Net Weight (lbs) per Halibut	Total Charter Halibut Harvest (M lbs)	Rate of Change from Previous Year
1995	49,615	19.9	0.986	N/A	137,843	20.6	2.845	N/A
1996	53,590	22.1	1.187	20.4%	142,957	19.7	2.822	-0.8%
1997	51,181	20.2	1.034	-12.9%	152,856	22.3	3.413	20.9%
1998	54,364	29.1	1.584	53.2%	143,368	20.8	2.985	-12.5%
1999	52,735	17.8	0.939	-40.7%	131,726	19.2	2.533	-15.1%
2000	57,208	19.8	1.132	20.6%	159,609	19.7	3.14	24.0%
2001	66,435	18.1	1.202	6.2%	163,349	19.2	3.132	-0.3%
2002	64,614	19.7	1.275	6.1%	149,608	18.2	2.724	-13.0%
2003	73,784	19.1	1.412	10.7%	163,629	20.7	3.382	24.2%
2004	84,327	20.7	1.75	23.9%	197,208	18.6	3.668	8.5%

Source: ADF&G, Statewide Harvest Survey Data 1995-2004, 2005.

The analysts requested logbook estimates for bottomfish and non-bottomfish targeted trips of the number of Pacific halibut harvested (1998-2001) and effort by area (1998-2004), by clients, crew and in total. This information is contained in Tables 4 and 5. These tables contain unadjusted data and the analysts note that in recent years the total number of client rods reported has been higher than the number of clients reported. Discussions with ADF&G staff indicate that differential is the result of missing data with regards to the total number of clients on a vessel. The analysts note that that crew totals are unavailable for 1998 due to logbook design.

Table 4. Estimated Total Harvest, Area 2C

Year	Total Number of Clients	Total Number of Client Rods Fished	Client Harvest	Crew Harvest	Total Harvest
1998	55,922	53,660	64,357	No Data	No Data
1999	56,173	55,777	68,327	2,355	70,682
2000	72,803	71,388	91,772	4,156	95,928
2001	69,222	68,505	91,299	4,272	95,571
2002	52,809	55,252	No Data	No Data	No Data
2003	59,498	62,874	No Data	No Data	No Data
2004	67,803	71,226	No Data	No Data	No Data

Source: ADF&G Logbook Data, 2005.

[7] This column added by Northern Economics, Inc.

Table 5. Estimated Total Harvest, Area 3A

Year	Total Number of Clients	Total Number of Client Rods Fished	Client Harvest	Crew Harvest	Total Harvest
1998	94,611	90,869	159,064	No Data	No Data
1999	89,449	106,849	177,570	14,753	192,323
2000	132,604	133,019	226,414	23,392	249,806
2001	132,306	132,896	225,942	26,492	252,434
2002	91,092	107,363	No Data	No Data	No Data
2003	90,178	106,037	No Data	No Data	No Data
2004	116,670	132,542	No Data	No Data	No Data

Source: ADF&G Logbook Data, 2005.

ADF&G provided logbook estimates for number of total "active" vessels, total trips conducted by "active" vessels, number of bottomfish trips per season per "active" vessels (in total), along with a summary of the total number of additional trips within one day conducted by "active" vessels (see Table 6).[8] All statistics are for bottomfish-targeted trips only and if a charter operator reported more than one trip per day, both trips had to be targeted at bottomfishing in order for the second trip in a day to be used for the information summary below.[9] The data show that a relatively small portion of trips are the second or more trips in a day for charter vessels and that the portion of trips qualifying as such is higher in Area 3A than in Area 2C. Additionally, while both the portion and number of trips qualifying as such has shown an increasing trend in Area 3A both the estimated portion and number of these trips has fallen in Area 2C.

Table 6. Trips per Day, Active Vessels, and More than One Trip per Day, 1998-2004

	Area 2C			Area 3A		
Year	Number of "Active" Vessels	Bottomfish Effort Trips	Bottomfish Trips after the 1st Trip within a Day (% of total trips)	Number of "Active" Vessels	Bottomfish Effort Trips	Bottomfish Trips after the 1st Trip within a Day (% of total trips)
1998	569	15,541	308 (2.0%)	503	17,650	466 (2.6%)
1999	591	15,700	No Data	545	19,823	No Data
2000	634	20,241	390 (1.9%)	570	25,180	893 (3.5%)
2001	627	18,965	226 (1.2%)	560	23,818	834 (3.5%)
2002	567	15,085	182 (1.2%)	491	18,573	631 (3.4%)
2003	590	16,948	223 (1.3%)	499	18,592	700 (3.8%)
2004	624	19,111	178 (0.9%)	532	22,600	1,078 (4.8%)

Source: ADF&G Logbook Data, 2005.

ADF&G also provided estimates of the statistics related to the number of Pacific halibut harvested per year by chartered anglers in IPHC Area 2C (1996-2004) obtained from the annual SWHS. The analysts note that the SWHS is an annual mail survey of households and not individual anglers. Thus, the information provided below is obtained only from responses to the survey from households with only *one*

[8] An active vessel is defined as a vessel which recorded at least one trip per year with bottomfish harvesting effort.

[9] In 1999 a supplemental log sheet was to be used by charter operators when reporting additional trips within a day. However, the rate of reporting second trips in a day was substantially below the rates observed for all other years (1998, 2000-2004) in which the second trip within the day was reported on the main log sheet for the day. Accordingly, information on multi-trips within a day is not reported for 1999.

angler per household. ADF&G staff has determined that it would be inappropriate to transfer the results from one-angler households to multiple-angler households and that the harvest reduction associated with multi-angler households can't be reliably estimated. However, single-angler households represent the majority of surveyed households in Area 2C. Thus, the table below shows only the estimated reduction in harvest associated with single-angler household as percent of the total harvest and the data represent the *minimum* estimate of the proportion of harvest that would be protected by the associated annual limits.[10]

For example, the data for 2004 show that a six-fish annual limit would have reduced overall harvest by approximately 7.0 percent if the analysis only counts single-angler households. The actual reduction would likely be higher because of the effect on multi-angler households. ADF&G staff has indicated the effect related to multi-angler households is likely to be a smaller portion of overall harvest than the effect from single-angler households because single-angler households represent the majority of surveyed households in Area 2C.

Note that the SWHS is an annual mail survey of households, and as such the information provided in Table 7 was obtained only from responses to the survey from households with only ONE angler per household. The information provided in Table 8 describes the proportion of harvest taken by the single-angler households in total.

Table 7. Harvest Level Estimates per Angler in Area 2C, 1996-2004

Year	Pacific Halibut Harvested per Angler per Year (*n*)	Estimates for One-angler Households			Weight Estimates As a % of All Households	
		Harvest due to n^{th} fish in bag (%)	Anglers harvesting *n* or more fish (%)	Harvest Reduction by a n^{th} fish limit (%)	Harvest due to n^{th} fish in bag (%)	Harvest Reduction by a n^{th} fish limit (%)
1996	5	8.8%	11.6%	19.0%	4.5%	9.9%
	6	6.9%	9.1%	12.1%	3.6%	6.3%
1997	5	8.5%	15.7%	19.0%	4.6%	10.3%
	6	7.3%	13.1%	11.7%	3.9%	6.4%
1998	5	9.1%	14.5%	16.5%	5.7%	10.4%
	6	7.8%	10.5%	8.7%	5.0%	5.5%
1999	5	7.7%	9.9%	15.1%	4.7%	9.4%
	6	6.5%	8.5%	8.7%	4.0%	5.4%
2000	5	8.2%	12.0%	17.1%	5.8%	12.1%
	6	7.7%	11.4%	9.4%	5.4%	6.7%
2001	5	9.3%	13.7%	17.2%	6.0%	11.1%
	6	7.9%	10.7%	9.3%	5.1%	6.0%
2002	5	9.0%	11.8%	20.3%	6.0%	13.7%
	6	8.1%	11.2%	12.3%	5.4%	8.3%
2003	5	10.1%	21.9%	19.8%	6.7%	13.1%
	6	8.5%	19.5%	11.3%	5.6%	7.5%
2004	5	9.8%	15.9%	18.5%	6.4%	12.2%
	6	7.9%	12.7%	10.6%	5.2%	7.0%

Source: ADF&G, Statewide Harvest Survey Data 1995-2004, 2005

[10] While this estimate represents the minimum savings, ADF&G analysts believe the analysis captures the majority of the effect because a majority of sampled households are single-angler households.

Table 8. Estimates of the proportion Pacific halibut harvest taken by household type (single angler versus multi-angler households) by chartered anglers in IPHC Area 2C (1996-2004) obtained from the annual mail survey of licensed sport anglers (aka Statewide Harvest Survey=SWHS).

Year	IPHC 2C
	Proportion of Pacific halibut Harvest taken by chartered anglers within single-angler households (compared to all charter harvest)
1996	51.8%
1997	54.2%
1998	63.1%
1999	61.9%
2000	70.7%
2001	64.3%
2002	67.3%
2003	66.2%
2004	65.7%

2.6 Analysis

2.6.1 Individual Measure Analyses

This section contains a discussion of the individual measures of the proposed alternatives. Discussed in detail are the estimated harvest reductions associated with limiting charter operators to one trip per day, eliminating harvests by skipper and crew while guiding charter clients, and limiting charter clients to an annual limit of charter-caught halibut. This latter management measure is only analyzed for Area 2C because it is not a management measure of the alternatives for Area 3A. The full analysis of the alternatives may be found in Section 2.7.

The management measure analyses build upon the data provided by ADF&G and described in Section 2.5. The ADF&G logbook harvest data required for estimating the effect of limiting vessels to no more than one trip per day is only available for 1998, 2000, and 2001 while the data required to estimate the effect of eliminating skipper and crew harvests is only available for 1999, 2000, and 2001.[11] These time-series are not long enough to support projecting changes through time to 2004. Additionally, many of these data do not show a consistent increasing or decreasing pattern which makes projection even more difficult given the short time frames. Thus, the analysts chose to utilize the lowest and highest estimates from the ADF&G time-series data as lower and upper estimates for the analysis. In the case of the elimination of multiple trips per day this estimation is then adjusted by 2004 logbook data on the frequency of multiple trips per day. In the absence of longer-time series and clear patterns, the analysts believe that this technique represents a pragmatic and best-available methodology for estimating the effect of the proposed alternatives.

The data required for estimating the effect of annual limits on harvest volumes comes from ADF&G's annual SWHS. In this case, the analysts utilize ADF&G's direct estimates of the potential effect of the management measure if the management measure had been in place in 2004.

[11] ADF&G logbook data did not record multiple trips per day in 1999 and did not record skipper and crew harvests in 1998.

2.6.2 Effect of No More than One Trip per Day

All proposed action alternatives in both IPHC areas would limit charter operators to one trip per day. The analysts estimate that this management measure would reduce overall harvest by less than seven percent in Area 3A and less than one percent in Area 2C. Table 9 contains two estimates from ADF&G of the number of halibut that would not be harvested if charter operators had been limited to one trip per day in 1998, 2000, and 2001. The first estimate is the reduction in harvest (in number of fish) if charter operators could drop their least successful trip for each day they took a multi-day trip. The second estimate is the estimated reduction based on average harvest per trip for multi-trip per day trips. The table includes only client harvest which means that the table underestimates the effect of the management measure when crew might be harvesting on the second trip of the day.

Table 9. Estimated Harvest by Charter Operators on Multiple Trips per Day (Number of Fish)

	Area 2C			Area 3A		
Year	Pacific Halibut Harvested by Charter Fleet	Reduction if Less Successful Trip Dropped	Reduction if Average Trip Dropped	Pacific Halibut Harvested by Charter Fleet	Reduction if Less Successful Trip Dropped	Reduction if Average Trip Dropped
1998	61,951	343 (0.6%)	664 (1.1%)	154,695	4,622 (3.0%)	5,335 (3.4%)
2000	94,730	708 (0.7%)	1,118 (1.2%)	248,411	7,608 (3.1%)	8,898 (3.6%)
2001	93,315	460 (0.5%)	684 (0.7%)	249,806	9,513 (3.8%)	10,909 (4.4%)

Source: ADF&G, Logbook Data (1998, 2000, 2001), 2005.

In Area 2C, the ADF&G analysts estimate that limiting vessels to one trip per day would have reduced the number of halibut harvested by charter operators between 0.5 percent and 1.2 percent depending on year and estimation technique. In Area 3A, the same techniques and time frame yield estimated reductions in the number of halibut harvested of between 3.0 and 4.4 percent. The analysis uses these ranges as lower and upper estimates for estimating the effect of the management measure on overall halibut harvest in each area.

While the analysts do not know how halibut harvest may have changed between 1998, 2000, 2001 and 2004, ADF&G data show that in Area 2C multiple trips per day became a less frequent form of occurrence relative to the total number of trips between 2004 and the earlier years. The opposite was true in Area 3A (see Table 10). For example, in 1998, 2000, and 2001 multiple trips in a single day represented 1.7 percent of total trips while in 2004 the average was 0.9 percent. This portion showed a steady decline between 1998 and 2004 (see Table 6). The analysts calculated an adjustment factor for each area to accommodate the changing prevalence of these trips.

Table 10. Estimated Adjustment Factor

	Area 2C	Area 3A
Time Period	Trips after the 1st Trip within a Day (% of total trips)	Trips after the 1st Trip within a Day (% of total trips)
1998, 2000,2001 Weighted Average	1.7%	3.3%
2004	0.9%	4.8%
Adjustment Factor	0.53	1.45

Source: ADF&G Logbook Data.

In Area 2C, the analysts estimate that limiting operators to one trip per day would have reduced between 4,700 and 11,200 pounds in 2004. This amount would have reduced harvest as a percentage of the standing GHL from 122.2 percent to between 121.9 percent and 121.4 percent (see Table 11).

Table 11. Estimated Harvest Reductions Associated with Limiting Charter Operators to One Trip per Day-Area 2C

		Lower Harvest Estimates			Upper Harvest Estimates		
Year	Actual Percent of GHL	Harvest Reduction (lbs)	Harvest with Limit (M lbs)	As a percentage of the GHL after Limit	Harvest Reduction (lbs)	Harvest with Limit (M lbs)	As a percentage of the GHL after Limit
2004	122.2	4,700	1,745,000	121.9%	11,200	1,739,000	121.4%

Source: Northern Economics, Inc. estimates based ADF&G Logbook Data, 2005

In Area 3A, the analysts estimate that limiting operators to one trip per day would have reduced harvest between 161,000 and 235,000 pounds in 2004. This amount would have reduced harvest as a percentage of the standing GHL from 100.5 percent to between 94.0 percent and 96.1 percent (see Table 12).

Table 12. Estimated Harvest Reductions Associated with Limiting Charter Operators to One Trip per Day-Area 3A

		Lower Harvest Estimates			Upper Harvest Estimates		
Year	Actual Percent of GHL	Harvest Reduction (lbs)	Harvest with Limit (M lbs)	As a percentage of the GHL after Limit	Harvest Reduction (lbs)	Harvest with Limit (M lbs)	As a percentage of the GHL after Limit
2004	100.5	161,000	3,507,000	96.1%	235,000	3,433,000	94.0%

Source: Northern Economics, Inc. estimates based ADF&G Logbook Data.

In addition to the analysts conducted using ADF&G data, the analysts also contacted charter operators in both Areas 2C and 3A. These operators concurred that this management measure would reduce halibut harvests by very small amounts—in the low single digit percentage range. However, the interviewees also indicated that the change might not reduce harvest at all. The predicted reduction associated with the management measure assumes that the displaced clients could not find replacement charters to take them fishing. However, the key informant interviews indicated that many clients would likely find open seats on other boats within the fleet. They indicated that while there might be shortages in a specific time and place (e.g., Deep Creek in July) many clients would be able to find replacement trips. If clients are able to find replacement bookings, then the effect of the management measure is likely to be overstated by the numerical analysis.[12] Data from ADF&G indicate that the number of clients per trip has declined slightly in Area 2C over time while the number of clients per trip in Area 3A is variable and does not show a long-term trend (see Table 13).

[12] These operators also indicated that in the long-run, such a change would not have an appreciable affect on overall halibut harvests because multiple-trip per day operators could buy another vessel.

Table 13. Logbook Estimate of Vessel Trips, Clients, and Clients per Trip

Year	Area 2C			Area 3A		
	Vessel Trips	Clients	Clients per Trip	Vessel Trips	Clients	Clients per Trip
1998	15,541	55,922	3.6	17,650	94,611	5.4
1999	15,700	56,173	3.6	19,823	89,449	4.5
2000	20,241	72,803	3.6	25,180	132,604	5.3
2001	18,965	69,222	3.6	23,818	132,306	5.6
2002	15,085	52,809	3.5	18,573	91,092	4.9
2003	16,948	59,498	3.5	18,592	90,178	4.9
2004	19,111	67,803	3.5	22,600	116,670	5.2

Source: Northern Economics, Inc. estimates based Alaska Department of Fish & Game Logbook Data, 2005

This management measure would also likely result in overnight charter operators converting to the traditional one-trip per day business model.[13] These operators usually run larger vessels capable of holding more passengers, and interviewees told us these operators usually limit the number of passengers on overnight trips to a level below their legal operating capacity. If these operators were forced to switch to one trip per day, they would be forced to run their boats at or near their full legal capacity. This change would reduce the efficacy of the management measure and could actually result in more halibut being harvested over the long-run depending on the excess capacity of these boats. The overnight-return fleet is centered in Homer, AK.[14]

2.6.3 Effect of No Harvest by Crew Members

According to ADF&G logbook data from 1999 through 2001, harvests by crew members accounted for between 3.3 percent and 4.5 percent of the annual halibut harvest in Area 2C. In Area 3A, crew members harvest between 7.7 percent and 10.5 percent of the annual halibut harvest (see Table 14).

Table 14. Crew Harvest, 1999-2001

Year	Client Harvest (Number of Fish	Crew Harvest (Number of Fish)	Total Harvest (Number of Fish)	Percent of Total Harvest
		Area 2C		
1999	68,327	2,355	70,682	3.3
2000	91,772	4,156	95,928	4.3
2001	91,299	4,272	95,571	4.5
		Area 3A		
1999	177,570	14,753	192,323	7.7
2000	226,414	23,392	249,806	9.4
2001	225,942	26,492	252,434	10.5

Source: Northern Economics, Inc. estimates based ADF&G Logbook Data, 2005.

[13] These operators leave in the evening and return the next morning to provide their clientele with a "double-limit." These boats then sail again twelve hours later after the morning return. Thus, they are essentially running two trips per day and would have to change their business model under the proposed actions.

[14] Data from ADF&G do not include estimates of trips made by these operators as logbook data does not distinguish these trips from those run by traditional leave and return in the same calendar day operators.

The data from 1999 through 2001 show an increasing trend in crew harvest as portion of total harvest. It is unknown if this trend continued over the long-term or indicates a short-term pattern in crew usage, thus the analysts do not make an attempt to project crew portions because of the limited data. Because of these uncertainties in the data, the analysis uses the 1999 estimate of crew's portion of halibut as a lower bound for estimating the effect of banning crew harvest on overall halibut harvests. The estimate the analysis generates from the 2001 data is used as an upper-bound estimate.

Table 15 shows the expected reductions in overall harvest associated with a ban on crew harvest in Area 2C if the ban had been in place between 2002 and 2004. The data show that in 2002 and 2003, if the portion of the entire charter harvest harvested by crew had been between the lower and upper-bound estimates—a range of 3.3 to 4.5 percent—the ban would have been sufficient to keep Area 2C charter harvests under the GHL of 1.453 million pounds. However, in 2004, overall halibut harvest increased by nearly 24.0 percent to 1.75 million pounds; an amount 297,000 pounds greater than the established GHL. The analysts estimate that banning crew harvests would have reduced overall harvest between 58,000 and 78,000 pounds in 2004. Thus, the banning of crew harvest alone would not have reduced harvest below the GHL in 2004 in Area 2C, as the amount of non-crew harvest is still between 16.7 percent and 18.1 percent greater than the GHL.

Table 15. Estimated Reductions in Overall Harvest through Elimination of Crew Harvest in Area 2C

	ADF&G Harvest Estimate		Lower Bound Harvest Estimate			Upper Bound Harvest Estimate		
Year	Percentage of GHL	M lbs	Estimated Crew Harvest (M lbs)	Harvest After Ban (M lbs)	Percent of GHL after Ban	Estimated Crew Harvest (M lbs)	Harvest After Ban (M lbs)	Percent of GHL after Ban
2002	89.0	1.275	0.042	1.23	86.1	0.057	1.22	85.1
2003	98.6	1.412	0.047	1.36	95.3	0.063	1.35	94.2
2004	122.2	1.750	0.058	1.69	118.1	0.078	1.67	116.7

Source: Northern Economics, Inc. estimates based Alaska Department of Fish & Game Logbook Data, 2005.

Charter halibut harvest in Area 3A was below the GHL of 3.65 million pounds in 2002 and 2003 and less than one percent above the GHL in 2004 (see Table 16). ADF&G logbook data indicate that crew accounted for 7.7 percent of harvest in 1999 and 10.5 percent of harvests in 2001, and these numbers represent the lower and upper-bound (see Table 14). The data show that in 2002, 2003, and 2004, if the portion of the entire charter harvest harvested by crew had been between the lower and upper-bound estimates, the ban would have been sufficient to keep Area 3A charter harvests under the GHL of 3.65 million pounds. In 2004 such a ban would have reduced harvest to between 89.9 percent and 92.8 percent of the GHL.

Table 16. Estimated Reductions in Overall Harvest through Elimination of Crew Harvest in Area 3A

	ADF&G Harvest Estimate		Lower Bound Harvest Estimate			Upper Bound Harvest Estimate		
Year	Percentage of GHL	M lbs	Estimated Crew Harvest (M lbs)	Harvest After Ban (M lbs)	Percent of GHL after Ban	Estimated Crew Harvest (M lbs)	Harvest After Ban (M lbs)	Percent of GHL after Ban
2002	74.6	2.724	0.209	2.52	68.9	0.286	2.44	66.8
2003	92.6	3.382	0.259	3.12	85.5	0.355	3.03	82.9
2004	100.5	3.668	0.281	3.39	92.8	0.385	3.28	89.9

Source: Northern Economics, Inc. estimates based ADF&G Logbook Data, 2005.

In-depth interviews with charter operators indicated that the elimination of crew harvest would be the most effective and palatable of the measures offered in the considered action alternatives. However, skipper and crew harvest plays a different role in each IPHC Area and sub-area. For example, in Area 2C most independent charter operators told the analysts that they rarely harvest fish for their own use and that the area's line limit effectively limits their opportunities to harvest additional crew fish. For large lodge operators in the area, however, the crew harvests can represent an informal part of crew pay for the operators' crew members. These crew members can store large amounts of halibut at the lodge during the summer and take fish home with them at the end of the season. Thus, the analysts expect that the effect of eliminating crew harvests would be smaller in areas that do not have a large number of charter operators and would be greater in areas where lodge operators represent a larger portion of boats on the water.

In Area 3A, crew harvests play a much different role than in Area 2C. For example, operators in Cook Inlet communities (e.g., Deep Creek and Ninilchik) and Homer told the analysts that portions of the charter fleet's crew regularly harvest halibut for both personal use and to gift to both successful and unsuccessful clients. In fact, operators told analysts that Alaska resident clients regularly expect to receive a share of crew harvest to boost their own take on a given trip. While some operators avoid crew harvest altogether to avoid this situation, others divide crew harvest amongst paying customers to increase customer satisfaction and loyalty. This practice seems to be more prevalent in the communities mentioned above and less prevalent in Prince William Sound communities.

Operators in both areas told us that the portion of the crew harvest that is used by crew to feed their families would most likely shift from harvesting during charter trips to harvest during recreational trips. Thus, some harvest will shift from the GHL managed charter industry to the non-guided recreational sector.

2.6.4 Effect of an Annual Limit (Area 2C Only)

The proposed management measures include an annual limit on the number of halibut an individual could harvest while on charter trips in Area 2C. Table 17 shows the estimated reduction in harvest associated with this management measure. ADF&G statisticians estimate that in 2004, a six-fish annual limit would have reduced overall harvest by charter clients by nearly 7.0 percent, while a five-fish limit would reduce overall harvest by roughly 12.2 percent. These measures would have reduced the overall charter fleet harvest in Area 2C from 122.2 percent of the GHL to between 107.3 percent and 113.7 percent of the GHL.

Table 17. Effect of an Annual Limit on Charter Industry Halibut Harvest in Area 2C

		Six-fish Limit Harvest Estimates				Five-fish Limit Harvest Estimates			
Year	Actual Harvest as Percentage of GHL	Harvest Reduction Portion	Est. Reduction (M lbs)	Harvest (M lbs)	Total percentage GHL after Limit	Harvest Reduction Portion	Est. Reduction (M lbs)	Harvest (M lbs)	As percentage of the 2000 GHL after Limit
2002	88.9	8.3	0.10	1.17	81.7	13.7	0.17	1.10	76.9
2003	98.4	7.5	0.10	1.31	91.2	13.1	0.19	1.23	85.7
2004	122.2	6.9	0.10	1.63	113.7	12.3	0.21	1.54	107.3

Source: Northern Economics, Inc. estimates based Alaska Department of Fish & Game Logbook Data, 2005.

This management measure is unlikely to affect the clientele of most charter operators. During the key informant interviews, operators of day-trip business indicated that this management measure would only affect a small portion of their clients and would be unlikely to affect any of the clients who come from

cruise boats. On the other hand, this management measure is most likely to restrict harvest by the clientele of lodge operators and those charter boat operators that offer multi-day packages. Many of the operators provide clientele with a choice of trip length. The management measure would limit the amount of halibut that those clients who wish to stay longer than three days at a lodge could harvest. For example, a visitor who currently stays with a lodge for four days could now leave with as many as eight fish. A six-fish limit would reduce the visitor's take by 25 percent, while a five-fish limit would reduce the visitor's take by 37.5 percent. A visitor at a lodge for three days would see no reduction under the six-fish limit, but would see an 18.3 percent reduction under a five-fish annual limit. The management measure could encourage the introduction of more bareboat rentals where clients rent boats without the benefit of a guiding skipper or crew. Public and law enforcement testimony has raised safety concerns about these rentals.

2.7 Economic and Socioeconomic Impacts of Alternatives

This section combines individual measures into the Alternatives defined in Section 0.

2.7.1 Expected Effect of Each Alternative in Area 2C

The analysts estimate that based on 2004 harvest levels Alternative 3 would be the alternative most likely to reduce charter fleet harvest in Area 2C to near the GHL of 1.432 million pounds (see Table 18). While the analysis does not directly show that any of the alternative would definitely reduce harvest below the GHL, the fact that the analysis likely underestimates the effect of the annual limit means the analysts believe that Alternative 3 would have come close to reducing 2004 harvests to near the GHL. Additionally, the analysts note the following:

- The effect of Alternative 1, the no action alternative, depends in part on the action of the Alaska Board of Fisheries in March 2006. If the Alaska Board of Fisheries accepts the proposals submitted by ADF&G (see Section 1.3.1) then an indirect result of Alternative 1 for Area 2C would be a reduction in harvest of between 3.3 and 4.5 percent as estimated in Section 2.6.3. However, Alternative 1 would not reduce current harvest levels itself and halibut harvests would likely continue their current trends of long-term growth (see Figure 2) if ADF&G's proposals are not accepted by the Board of Fisheries.
- Alternative 2 would limit vessels to one trip per day, eliminate harvest by crew members, and place an annual limit of six fish on charter clients. The analysts estimate that this alternative would have reduced harvest in 2004 from 122.2 percent of the GHL to between 107.5 and 109.6 percent of the Area's GHL. While this alternative could slow growth in the long run, it is likely that charter industry harvest would remain above the GHL and continue its long-term growth trend.
- Alternative 3 would limit vessels to one trip per day, eliminate harvest by crew members, and place an annual limit of five fish on charter clients. The analysts estimate that this alternative would have reduced harvest in 2004 from 122.2 percent of the GHL to between 101.3 and 102.7 percent of the Area's GHL. While these management measures would reduce harvest to nearly the level of the current GHL, any growth in harvest would again lead to a larger difference between the GHL and harvest levels.

Table 18. Effect of Alternatives of Charter Industry Halibut Harvest (2004) in Area 2C

Category	Management Measure/Effect	Alt. 1	Alt. 2		Alt. 3	
			Lower Estimate	Upper Estimate	Lower Estimate	Upper Estimate
Management Measures	One Trip Per Day (Percent of Harvest)	N/A	0.3%	0.6%	0.3%	0.6%
	No Harvest by Crew (Percent of Harvest)	N/A	3.3%	4.5%	3.3%	4.5%
	Annual Limit of 6 Fish (Percent of Harvest)	N/A	7.0%	7.0%	N/A	N/A
	Annual Limit of 5 Fish (Percent of Harvest)	N/A	N/A	N/A	12.2%	12.2%
Net Reduction	Total Net Reduction (Percent of Harvest)	0.00	10.6%	12.1%	15.8%	17.3%
	Total Net Reduction (Millions of Pounds)	0.00	180,000	210,000	280,000	300,000
Estimated Harvest Levels	Estimated 2004 Harvest with Restrictions	1.750	1.570	1.540	1.470	1.450
	Harvest as a Percentage of the GHL	122.2	109.6	107.5	102.7	101.3

Source: Northern Economics, Inc. estimates based ADF&G Logbook and Statewide Harvest Survey Data.

2.7.2 Expected Effect of Each Alternative in Area 3A

In 2004, the charter industry's halibut harvest was 100.5 percent of the 3.65 million pound GHL. Numerical estimates of the effect of the proposed alternatives indicate that the action alternatives are likely to reduce Area 3A charter harvests below the GHL.[15] However, as shown in Figure 2 on page 22 and Table 3 on page 23, the industry has a long-term, but highly variable growth pattern in harvests. Thus, because Alternative 3 reduces overall harvest the most this alternative would likely provide the longest time period before industry harvests approach the GHL in the future. Additionally, the analysts note the following:

- Alternative 1, the no action alternative, would not reduce current harvest levels or change current industry trends without independent action by the Alaska Board of Fisheries on ADF&G's proposals. If the Board accepts these proposals (see Section 1.3.1) then an indirect result of Alternative 1 for Area 3A would be a minimum reduction in harvest of between 7.7 and 10.5 percent as estimated in Section 2.6.3. The analysts note that both ADF&G staff and charter industry members have said that the 2005 harvest in Area 3A is likely to be under the GHL. Industry members indicated that the 2004 harvest was boosted by the diversion of tourism activities away from interior Alaska to Southcentral Alaska because of interior wildfires. Thus, it is likely that under the no-action alternative, and without Board of Fish approvals of ADF&G proposals, that harvest levels in Area 3A would slip below the GHL for a short period before growth in tourism and the charter fleet pushed industry harvest above the GHL.
- Alternative 2 would limit vessels to one trip per day. The analysts estimate that this alternative would have reduced harvest in 2004 from 100.5 percent of the GHL to between 94.0 and 96.1 percent of the Area's GHL. As noted above and discussed in Section 2.6.2, industry members indicated in key informant interviews that the effect of this management measure could be very short-term as the response of operators using the multi-trip per day or overnight trip business models would likely increase the number of boats operated and work to ensure that boats now operated at voluntary less-than-capacity levels are operated at full capacity. Additionally, the analysis likely overestimates the effect of the alternative even without the adaptations above, because excess capacity currently exists in the Southcentral charter fleet. This excess capacity

[15] The analysts note that any of the component measures analyzed for this area would reduce harvest below the GHL.

means that a portion of displaced clients are likely to find seats with operators currently using the one-trip-per day business model.

- Alternative 3 would limit vessels to one trip per day and eliminate harvest by crew members. The analysts estimate that this alternative would have reduced harvest in 2004 from 100.5 percent of the GHL to between 83.5 and 88.4 percent of the Area's GHL. As with Alternative 2, the portion of the reduction associated with restrictions on the number of trips per day is likely to be overestimated by this analysis and short-lived. The majority of the reduction associated with this alternative comes from the elimination of crew harvests. Industry members indicated to the analysts that this management measure of the alternative is likely to be the most effective, have the greatest long-term effect, and have least economic effect on charter industry members.[16] This appears to imply that the industry would choose Alternative 3 from amongst the listed Alternatives, but would prefer that the one-trip per day limit be removed from the Alternative, as the goal of the measure can be achieved without that management measure.

Table 19. Effect of Alternatives of Charter Industry Halibut Harvest in Area 3A

Category	Management Measure/Effect	Alt. 1	Alt. 2		Alt. 3	
			Lower Estimate	Upper Estimate	Lower Estimate	Upper Estimate
Management Measures	One Trip Per Day (Percent of Harvest)	N/A	4.4%	6.4%	4.4%	6.4%
	No Harvest by Crew (Percent of Harvest)	N/A	N/A	N/A	7.7%	10.5%
Net Reduction	Total Net Reduction (Percent of Harvest)	0.00	4.4%	6.4%	12.1%	16.9%
	Total Net Reduction (Millions of Pounds)	0.00	161,000	235,000	442,000	620,000
Estimated Harvest Levels	Estimated 2004 Harvest with Restrictions	3.668	3.508	3.434	3.227	3.048
	Harvest as a Percentage of the GHL	100.5%	96.1%	94.0%	88.4%	83.5%

Source: Northern Economics, Inc. estimates based ADF&G Logbook and Statewide Harvest Survey Data.

2.7.3 Economic Effects on Industry and Communities

The analysts conducted key informant interviews with a number of charter and lodge operators in Areas 2C and 3A. This section describes the results of those interviews, discusses those results in relation to available data from ADF&G and peer-reviewed economic research. This information is viewed as a complementary addition to the numerical analysts conducted above, and in many ways confirms the results of that analysis.

2.7.3.1 Effect of Area 2C Alternatives

2.7.3.1.1 Alternative 1 – No Action

The effect of the no action alternative would likely be continuation of a pattern of long-term growth in the area's halibut harvest. Discussions with interviewees indicated a long-term growth pattern in the number of participants in the charter industry and many interviewees feared that a lack of action now could result in more stringent economic measures in the future. If the Board of Fish approves ADF&G's proposal to institute line limits and ban harvest by crew member the need for more stringent measures in the short-term is likely to remain unchanged in Area 2C because the elimination of crew harvest is not enough to lower Area wide harvest to the GHL level.

[16] For more discussion on these topics, please see Section 2.6.3.

2.7.3.1.2 Alternative 2 – One Trip per Day, No Harvest by Skipper and Crew, and Annual Limit of Six Fish

A likely economic effect associated with this limit of charter vessels to one trip per day would be that a number of boats would be forced to change their business model to conform to the allowance of only one trip per day. While the analysts do not know the number of businesses that rely on this business model Table 20 shows the number of vessels that made more than one trip in a day during the 1998 through 2004 seasons. Between 11.3 percent and 16.4 percent of the fleet participated in multiple trips per day at least once during each of those years. Thus, a number of the fleet participates in this way at some point during each halibut season, but given that only 0.9 percent of the trips entered in 2004 logbooks qualify as trips after a first trip in a day, the number of operators who depend on this business model is likely to be relatively small. Nonetheless, these operators would face a significant disruption of their business model. Discussions with charter industry operators indicate that while multiple-trip per day operators are not as common in Area 2C as they in Area 3A, this management measure of the Alternative is likely to affect a small number of operators in major cruise ship ports such as Ketchikan, Juneau, and Sitka. An argument the analysts heard repeatedly from operators was that because of the limited range and duration of these trips (i.e. most trips are less than 4 hours) they did not generate the catch per unit of effort that other operators generate. Thus, this management measure of the alternative would have a substantial negative effect on these operators while having a negligible effect on harvest.17 As noted in Section 2.6.2 and Section 2.7.2, the analysts estimate that limiting charter fleet vessels to one trip per day would reduce harvest by between 0.3 percent and 0.6 percent. However, interviews with charter industry members indicated that the long-term effect of the alternative is likely to be far less than estimated in the analysis above (see Section 2.6.2).

Table 20. Area 2C Vessels Affected by the limiting Vessels to One Trip per Day

Year	Number of "active" vessels	Trips After the 1st Trip Within a Day		Vessels Making Multiple Trips per Day at Least Once	
		Number	Percent of All Trips	Number	Percent
1998	569	308	2.0	86	15.1
1999	591	No Data Available	No Data Available	No Data Available	No Data Available
2000	634	390	1.9	104	16.4
2001	627	226	1.2	71	11.3
2002	567	182	1.2	79	13.9
2003	590	223	1.3	90	15.3
2004	624	178	0.9	73	11.7

Source: ADF&G Logbook Data (1998-2004).

Another potential effect of this component is the possibility that some clients who would have chosen to go halibut fishing might chose to pursue another activity in the area or could chose not to take their trip to Alaska at all. A 2001 publication by Herrmann et al. based on a 1998 postal survey of Kenai saltwater anglers noted that charter clients spent between $167.47 and $294.21 daily depending on whether they were local or from out-of-state. If clients could not, or chose not, to take a halibut trip and didn't spend this money elsewhere in the local economy, then the management measure would result in economic losses related to client expenditures. However, the analysts are currently unable to quantify how many anglers would be unable to find a replacement charter trip, would chose not to take halibut trip altogether,

[17] The catch per unit effort argument could potentially be verified through ADF&G data, but sub-area data for the analysis were not available for this draft.

or would spend their money in another sector of the economy. As shown in Table 20, the number of trips after the first trip of day in Area 2C is less than 1 percent of the total number of trips in the area. Thus, the analysts expect that overall effects would be small relative to the total expenditures related to halibut charters, but localized losses could be felt by individual businesses.

The second management measure of the alternative bans crew harvest. Harvest of halibut by crew members occurs at a lower rate in Area 2C than it does in Area 3A, perhaps because of existing line limits (see Section 2.6.3). Key informant interviews with charter operators indicated that the elimination of harvest by crew members was likely to have little economic impact on their business. In fact, many the interviews indicated that the elimination of the crew harvest was the most acceptable measure presented to them. The economic impact of this management measure is most likely to fall on crew members themselves, if they are unable to acquire halibut for personal use through other low-cost means. Section 2.6.3 estimates crew harvested between 58,000 and 78,000 pounds of halibut (net weight) which is equivalent to approximately 31,000 to 42,000 pounds of fillet (Crapo 1988). Halibut that is not replaced through low-cost means would have to be replaced at retail prices or by substituting other protein sources, leading to higher costs for crew members. For, example if halibut costs an average of $10 per pound at the retail counter then it would cost crew between $310,000 and $420,000 to replace the lost halibut on a pound for pound basis at the retail counter. At least one interviewee told us that crew at lodges considered the halibut to be part of their wages. If true, it means that the elimination of crew harvest could lead to higher labor costs for operators if crew members demand to be compensated for the reduction in wages. However, many operators told us that if crew harvest were eliminated, crew would conduct personal recreational trips on days when they did not have paying clients or in the shoulder season so that skippers, deck hands, and family members could continue to acquire halibut for personal use and offsetting the potential costs of the measure.

This third management measure in the alternative limits clients to six fish annually. This annual limit is likely to economically affect a significant number of charter operators and could affect local economies. The key informant interviews revealed that lodge operators and charter boat operators offering packages of four or more consecutive fishing days are the most likely to be affected by this management measure of the alternative, because the limit makes longer experiences less desirable to potential clients. A six-fish bag limit is unlikely to affect the experience of anglers on a three-day experience or shorter, because six fish equals three daily bag limits for halibut. Businesses likely to be affected by this change told us they expect higher marketing costs, higher operating costs, and lower margins associated with a change. Several interviewees also indicated that pressure could increase on other species as operators work to retain clients interested in longer trips. These economic effects are likely to be experienced throughout Area 2C as many individual charter boat operators offer these trips. Charter boat operators catering to the portion of the public that takes few trips a season are less likely to be affected then the aforementioned groups.

Sitka and Prince of Wales Islands, which are home to several large lodges, could feel the effects of this management measure more acutely than other communities. As noted above, saltwater anglers spend significant amount of money each day (between $167.47 and $294.21 per day on the Kenai Peninsula in 1997). If anglers chose not to travel to Area 2C for these experiences then local economies and companies will suffer. Criddle et al., 2003 estimated that a 30 percent reduction in expected halibut catch per day would result in a 25.1 percent reduction in angler participation in Kenai area fisheries. However, an annual limit does not necessarily reduce catch per day if catch and release fishing is allowed. Discussions with NOAA-Fisheries economists indicated a lack of elasticity estimates that would allow the analysts to estimate how annual limits might affect demand for longer charter experiences. NOAA-Fisheries economists indicated that such work was in progress, but are unavailable at this time (Lee, 2005; Lew, 2005).

2.7.3.1.3 Alternative 3 – One Trip per Day, No Harvest by Skipper and Crew, and Annual Limit of Five Fish

The effect of the restriction in trips per day and elimination of skipper and crew harvests are the same as those described for Alternative 2 in Area 2C except the institution of a five-fish annual limit would exacerbate the effects described above associated with a six-fish annual limit. A five-fish annual limit would mean that anglers who would normally book three or more days of halibut fishing in a year would have an annual limit equivalent to less than the bag limit for three days of fishing for halibut. The reduction would likely make trips of 3 days in length or longer more difficult for operators to book. The reduction would have a greater impact over the long-term on operators in inside passage communities such as Petersburg and Wrangell, which rely on halibut during the month of July when other species are scarce than on charter operators with access to outside waters, such as those based on the western side of Sitka and Prince of Wales Islands, have the option of pursuing other species to make up for reduced annual limit. This change makes the trips offered by outside operators more desirable than those offered by operators from inside communities. In the long run, the analysts expect that inside operators would be reduced to offering single or two-day packages during July, while fishing pressure and effort from clients desiring longer experiences would shift from those communities to outside communities. Thus, the alternative could result in additional negative effects for inside communities, with a somewhat mitigating economic effect for outside communities, and increased pressure on alternative species in outside areas.

2.7.3.2 Effect of Area 3A Alternatives

2.7.3.2.1 Alternative 1 – No Action

As with the no action alternative for Area 2C, the effect of the no action alternative for Area 3A would likely be continuation of a pattern of long-term growth in the Area's halibut harvest. Although in recent years growth in Area 2C has been slower and more variable than growth in Area 2C (see Table 3), the long-term trend for Area 3A would eventually lead to larger differences between harvest levels and the GHL under the no action alternative. Discussions with interviewees indicated a long-term growth pattern in the number of participants in the charter industry and many interviewees feared that a lack of action now could result in more stringent and painful economic measures in the future. If the Board of Fish approves ADF&G's proposal to institute line limits and ban harvest by crew member the need for more stringent measures in the short-term would be reduced in Area 3A because the elimination of crew harvest could lower overall harvest levels below the GHL in the short-term.

2.7.3.2.2 Alternative 2 – One Trip per Day

An economic effect associated with this alternative is that a number of boats would be required to change their business model to conform to the allowance of only one trip per day. While the analysts do not know the number of businesses that rely on this business model Table 21 shows the number of vessels that made more than one trip in a day during the 1998 through 2004 seasons. Between 19.3 percent and 25.4 percent of the fleet participated in multiple trips per day at least once during each of those years. Thus, a number of the fleet participates in this way at some point during each halibut season, but given that an estimated 4.8 percent of the 2004 trips entered in logbooks qualify as trips after a first trip in a day, the number of operators who depend on this business model is likely to be a relatively small portion of the total industry. However, these operators would face a disruption of their business model. As noted in Sections 2.6.2 and 2.7.2, the analysts estimate that limiting charter fleet vessels to one trip per day would reduce harvest by between 4.4 percent and 6.4 percent, but interviews with charter industry members indicated that the long-term effect of the alternative is likely to be far less than estimated in the analysis above (see Section 2.6.2).

Table 21. Area 3A Vessels Affected by the Alternative

Year	Number of "active" vessels	Trips After the 1st Trip Within a Day		Vessels Making Multiple Trips per Day at Least Once	
		Number	Percent of All Trips	Number	Percent
1998	503	466	2.6%	100	19.9%
1999	545	No Data Available	No Data Available	No Data Available	No Data Available
2000	570	893	3.5%	145	25.4%
2001	560	834	3.5%	115	20.5%
2002	491	631	3.4%	95	19.3%
2003	499	700	3.8%	118	23.6%
2004	532	1,078	4.8%	115	21.6%

Source: ADF&G Logbook Data (1998-2004).

Another potential effect of this component is the possibility that some clients who would have chosen to go halibut fishing might chose to pursue another activity in the area or could chose not to take their trip to Alaska at all. A 2001 publication by Herrmann et al. based on a 1998 postal survey of Kenai saltwater anglers noted that charter spent between $167.47 and $294.21 daily depending on whether they were local or from out-of-state. In total these anglers (who fished for both halibut and salmon) contributed $24.9, $22.3, and $23.5 million to the Kenai economy in 1997, 1998, and 1999 respectively. Contributions to the entirety of the Area 3A economy were undoubtedly higher. If clients could not, or chose not, to take a halibut trip and did not spend this money elsewhere in the local economy, then the management measure would result in economic losses related to client expenditures. Key informant interviews indicated that many anglers would be able to find replacement trips, but some would be unable to take the trip they want when and where they want to take it. However, the analysts are currently unable to quantify how many anglers would be unable to find a replacement charter trip or would chose not to take halibut trip altogether. As shown in Table 21, the number of trips after the first trip of day in Area 3A is approximately 4.8 percent of the total number of trips in the area. Thus, the analysts expect that overall effects would be small relative to the total expenditures related to halibut charters, but localized losses could be felt by individual businesses and communities.

The disruption of business models and changes in angler expenditures are unlikely to be felt evenly across communities within Area 3A, as the charter sector in some communities depends far more on the more multiple-trip per day business model than in other communities. For example, operators located in Prince William Sound communities (Valdez, Cordova, and Whittier) and Seward rely almost more on the single-trip per day model because of the distance from these communities to the primary fishing grounds located near Hinchinbrook and Montague Islands.[18] Thus, the alternative may have little economic effect (and generate little harvest reductions) on these communities. On the other hand, a higher percentage of charter operators in Deep Creek and Ninilchik rely on multiple trips per day as their primary business model. These operators are located much closer to halibut fishing grounds in Cook Inlet, and are able to make shorter trips to fishing grounds. These operators and their communities would face the greatest economic effects from this alternative. Homer is the home of the overnight fleet in Area 3A, but not the home port for many multiple-trips per day charters. The economic effect in this community would likely be between the effect in PWS and interior Cook Inlet communities.

[18] The Prince Williams Sound communities are also home to several business operating multi-night tours, but these tours do not always concentrate on fishing.

2.7.3.2.3 Alternative 3 – One Trip per Day and No Harvest by Skipper and Crew

Alternative 3 for Area 3A would have all of the effects noted in the discussion of Alternative 2 for Area 3A plus the additional effects described below.

Key informant interviews with charter operators indicated that the elimination of harvest by crew members was likely to have little or no economic impact on their business. As in the interview conducted with Area 2C operators, many of the Area 3A operators indicated that the elimination of the crew harvest was the most acceptable measure for bringing the industry under the GHL for Area 3A. The economic impact of this management measure is most likely to fall on crew members themselves if they are unable to acquire halibut for personal use through other low-cost means. Section 2.6.3 estimates crew harvested between 281,000 and 385,000 pounds of halibut (net weight) which is equivalent to approximately 152,000 to 208,000 pounds of fillet (Crapo 1988). Halibut that is not replaced through low-cost means would have to be replaced at retail prices or by substituting other protein sources, leading to higher costs for crew members. For example, if halibut costs an average of $10 per pound at the retail counter then it would cost crew between $1.52 and $2.08 million to replace the lost halibut on a pound for pound basis at the retail counter. Halibut that is not replaced through low-cost means would have to be replaced at retail prices or by substituting other protein sources. This event would lead to higher costs for crew members. However, many operators told us that if crew harvest were eliminated, crew would conduct recreational trips on days when they did not have paying clients or in the shoulder season so that skippers, deck hands, and family members could acquire halibut for personal use.

2.7.4 Enforcement Issues and Recordkeeping

Enforcement is a key management measure of any fishery harvest management program. In 2003, NMFS, USCG, ADPS, and ADF&G all reported that they do not have enforcement programs specifically directed at the recreational charter fishery (NPFMC 2003). This document reported:

> *…enforcement occurs on an opportunistic basis. All agencies agreed at that time some level of additional enforcement would be needed under a GHL system, depending upon the allocation and implementation scheme adopted. Also, the decision to allocate additional enforcement to this program would properly entail an evaluation of the public interest in doing so, versus doing less enforcement somewhere else. Staff discussed GHL enforcement issues, especially the implications of activating the various measures like line, bag, and trip limits. Although a state enforcement officer was not present, the other agencies essentially reported that additional enforcement resources would not be forthcoming to support this program.*
>
> *Having said that, there are characteristics of the recreational charter fishery that suggest a different and lesser level of enforcement may be needed to ensure an adequate level of compliance with the program. Several characteristics of the fishery differentiate it from other fisheries and work to the advantage of regulators:*
>
> *a. The recreational charter fishery operates in the public eye. Requiring operators to prominently post GHL control measures like bag limits and line limits onboard charter would help promote compliance. The State could further support this by requiring those businesses selling sportfishing licenses to do the same.*
>
> *b. The recreational charter fishery is highly competitive. While there are some operations in isolated locations, many boats tie up and operate in close proximity to other charter. It is reasonable to expect that those operators who are following the rules would be quick to notice*

another operator seeking to "steal" customers by offering a better trip with higher bag or rod limits.

c. Charter operators are required to have a current Coast Guard license to operate. One of the conditions of the license requires the operator to comply with all Federal regulations. Charter operators potentially risk losing their Coast Guard license if they violate Federal fisheries regulations. It is reasonable to conclude that because of the nature of the Coast Guard license, inferring a trust and responsibility to the licensee, as well as the double jeopardy implications, charter operators would likely have a higher rate of compliance with GHL measures than might otherwise be expected.

Additionally, the analysts note that ADF&G currently regulates the recreational harvest of king salmon, rainbow trout, salmon sharks, and other species in certain areas by requiring anglers to record harvests of these species on the back of their fishing licenses immediately upon harvest. This system or a system involving charter stamps could be used to regulate annual harvest limits in Area 2C.

These four factors, along with the current system of opportunistic enforcement, may provide a level of compliance sufficient to ensure the GHL measures have the desired effect in controlling the fishery.

Interviews with industry experts said they expected some hurdles with enforcement of proposed issues. For example, a ban on crew harvest would require frequent enforcement checks to deter illicit harvest of halibut. Interviewees also saw potential hurdles with limiting charter operators to one trip per day, indicating the regulations would have to be specific about vessels and captains being banned from making more than one trip per day. Without such specificity, charter operators could enter into sub-lease agreements with each other to boost the number of trips they could make in a day.

The analysts note that in 2006 ADF&G plans to reinstitute the requirement that charter operators track halibut harvest and effort in charter logbooks.

2.7.5 Effects on Net Benefits to the Nation

The net benefits to the Nation arising out of the action alternatives can accrue from several sources. First, the action alternatives should initially reverse and then slow the open-ended reallocation between commercial and guided sport sectors. This reversal should instill commercial quota holders with greater confidence in the value of their quotas which will in term support the market for quota shares and encourage appropriate investment and capitalization in the commercial sector. Further, the reallocation of halibut harvest amounts back to the commercial sector may affect the benefits realized by U.S. consumers through changes in product availability and price. This section summarizes the different effects of the alternatives to allow comparison and conclusions concerning the overall effects of the alternatives on net benefits to the Nation.

2.7.5.1 Area 2C

2.7.5.1.1 Alternative 1 – No Action/Status Quo

If the current management of charter halibut harvests in Area 2C continues, and the Alaska Board of Fisheries does not take independent action to restrict crew harvests, the net benefits to the Nation are likely to follow their current trend. The open-ended reallocation to the guided sport sector from the commercial sector will continue and likely grow as guided sport sector harvest has grown in recent years. This reallocation will increase uncertainty for commercial quota holders and could affect benefits realized by U.S. consumers through changes in product availability and price

2.7.5.1.2 Alternative 2 – One Trip per Day, No Harvest by Skipper and Crew, and Annual Limit of Six Fish

Alternative 2 should reverse the open-ended reallocation between commercial and guided sport sectors and could instill commercial quota holders with greater confidence in the value of their quotas which will in term support the market for quota shares. A greater confidence in the value of quotas will also encourage appropriate investment and capitalization in the commercial sector. Further, the reallocation of halibut harvest amounts back to the commercial sector may affect the benefits realized by U.S. consumers through changes in product availability and price. However, the alternative could result in increased costs incurred by charter operators dependent on a multiple-trip per day business model, crew members dependent on halibut harvests for personal use, and operators dependent on clients interested in fishing experiences lasting longer than three days or those dependent on repeat customers who take more than three trips per year

2.7.5.1.3 Alternative 3 – One Trip per Day, No Harvest by Skipper and Crew, and Annual Limit of Six Fish

Alternative 3 in Area 2C provides for greater reductions in halibut harvest than Alternative 2 and comes closer to reducing guide sport sector halibut harvest to at or below the area GHL. This change should result in greater gross benefits. However, increased benefits would come at greater costs to operators dependent on clients interested in fishing experiences lasting three days or longer or those dependent on repeat customers who take than three or more trips per year.

2.7.5.2 Area 3A

2.7.5.2.1 Alternative 1 – No Action/Status Quo

If the current management of charter halibut harvests in Area 3A continues and the Alaska Board of Fisheries does not take independent action to restrict crew harvests and institute line limits the net benefits to the Nation are likely to follow their current trend. The open-ended reallocation to the guided sport sector from the commercial sector will continue and likely grow as guided sport sector harvest has grown in recent years. This reallocation will increase uncertainty for commercial quota holders and could affect benefits realized by U.S. consumers through changes in product availability and price

2.7.5.2.2 Alternative 2 – One Trip per Day

Alternative 2 should reverse the open-ended reallocation between commercial and guided sport sectors by lowering guided sport sector harvest to below the GHL for Area 3A. These changes could instill commercial quota holders with greater confidence in the value of their quotas which will in term support the market for quota shares and encourage appropriate investment and capitalization in the commercial sector because of improved information flow. Further, the reallocation of halibut harvest amounts back to the commercial sector may affect the benefits realized by U.S. consumers through changes in product availability and price. However, the alternative could result in increased costs incurred by charter operators dependent on a multiple-trip per day business models.

2.7.5.2.3 Alternative 3 – One Trip per Day and No Harvest by Skipper and Crew

Alternative 3 will reduce guided sport sector harvest to between 11.6 and 16.5 percentage points below the Area GHL. This amount is greater than the 3.9 to 6.0 percentage point reduction associated with Alternative 2. Thus, Alternative 3 will result in greater benefits according to the nation through increased confidence in the value of commercial quota shares and support of the quota share market. Further, the greater reallocation of halibut harvest amounts back to the commercial sector may affect the benefits

realized by U.S. consumers through changes in product availability and price in a greater way than Alternative 2. However, the alternative could result in increased costs incurred by charter operators dependent on a multiple-trip per day business models and crew members dependent on halibut harvests for personal use.

2.7.6 Summary and Conclusions

2.7.6.1 Area 2C Conclusions

The expected effects of the alternatives for Area 2C are discussed in Table 22. The effect of Alternative 1, the no action alternative, depends in part on the action of the Alaska Board of Fisheries in March 2006. If the Alaska Board of Fisheries accepts the proposals submitted by ADF&G (see Section 1.3.1) then an indirect result of Alternative 1 for Area 2C would be a reduction in harvest of at least 3.3 to 4.5 percent as estimated in Section 2.6.3. However, Alternative 1 would not reduce current harvest levels itself and halibut harvests would likely continue their current trends of long-term growth (see Figure 2) if ADF&G's proposals are not accepted by the Board of Fisheries.

Table 22. Summary of Expected Effects of Alternatives, Area 2C

Alternative	Who May Be Affected	Change in Charter Harvest	Economic Costs	Action Objectives
Alternative 1	Status Quo/Baseline	Baseline	Baseline	Baseline
Alternative 2	Approximately 620 charter vessels fished for halibut in 2004. Together these vessels carried 67,800 clients who harvested 84,200 halibut weighing 1.75 million pounds.	This alternative would have reduced charter industry halibut harvest in 2004 by between 180,000 and 210,000 pounds and reduced total harvest to between 107.5 and 109.6 percent of the GHL from the current 2004 level of 122.2 percent of the GHL.	Costs associated with this alternative could include: the potential for lower angler demand and expenditures, higher marketing costs for operators, higher costs for crew dependent on halibut harvest for personal consumption, and the disruption of the multiple trips per day business model.	Lowers current harvest levels to a level closer to the current GHL, but provides less expected reductions than Alternative 3.
Alternative 3	Approximately 620 charter vessels fished for halibut in 2004. Together these vessels carried 67,800 clients who harvested 84,200 halibut weighing 1.75 million pounds.	This alternative would have reduced charter industry halibut harvest in 2004 by between 280,000 and 300,000 pounds and reduced total harvest to between 101.3 and 102.7 percent of the GHL from the current 2004 level of 122.2 percent of the GHL.	Costs associated with this alternative could include: the potential for lower angler demand and expenditures, higher marketing costs for operators, higher costs for crew dependent on halibut harvest for personal consumption, and the disruption of the multiple trips per day business model. The likelihood of incurring costs related to the annual limit measure is higher than the likelihood for Alternative 2.	May best meet the objectives of the Council by lowering current harvest levels to a level closer to the GHL.

Alternative 2 would limit vessels to one trip per day, eliminate harvest by crew members, and place an annual limit of six fish on charter clients. The analysts estimate that this alternative would have reduced harvest in 2004 from 122.2 percent of the GHL to between 107.5 and 109.6 percent of the Area's GHL. While this alternative could slow growth in the long run, it is likely that charter industry harvest would remain above the GHL and continue its long-term growth trend. Industry interviews indicated that the

banning of multiple trips per day was unlikely to significantly reduce harvest economically affecting operators who rely on that business model to stay in business. These same operators indicated that institution of an annual bag limit would economically affect charter operators providing experiences long than three days in length through increases marketing costs and lower margins. The elimination of harvest by crew members was widely supported by industry members during the interviews and is not expected to cause significant economic losses to the industry.

Alternative 3 would limit vessels to one trip per day, eliminate harvest by crew members, and place an annual limit of five fish on charter clients. The analysts estimate that this alternative would have reduced harvest in 2004 from 122.2 percent of the GHL to between 101.3 and 102.7 percent of the Area's GHL. While these management measures would reduce harvest to nearly the level of the current GHL, any growth in harvest would again lead to a larger difference between the GHL and harvest levels. While this harvest would reduce harvest in the short-term even more than Alternative 2, it is likely that charter industry harvest would remain above the GHL and continue a long-term growth trend in harvest levels. Alternative 3 would have of the same economic effects as Alternative 2, but would also result in additional economic effects for charter operators and lodges that book anglers for stays longer than 2 days in duration. In the long-term, the result of these effects could be a transfer of pressure from inside passage communities to those facing the Gulf of Alaska and increases pressure on alternative species.

2.7.6.2 Area 3A Conclusions

The expected effects of the alternatives for Area 3A are discussed in Table 23. Alternative 1, the no action alternative, would not reduce current harvest levels or change current industry trends without independent action by the Alaska Board of Fisheries on ADF&G's proposals. If the Board accepts these proposals (see Section 1.3.1) then an indirect result of Alternative 1 for Area 3A would be a minimum reduction in harvest of between 7.7 and 10.5 percent as estimated in Section 2.6.3. The analysts note that both ADF&G staff and charter industry members have said that the 2005 harvest in Area 3A is likely to be under the GHL. Industry members indicated that the 2004 harvest was boosted by the diversion of tourism activities away from interior Alaska to Southcentral Alaska because of interior wildfires. Thus, it is likely that under the no-action alternative, and without Board of Fish approvals of ADF&G proposals, that harvest levels in Area 3A would slip below the GHL for a short period before growth in tourism and the charter fleet pushed industry harvest above the GHL.

Table 23. Summary of Expected Effects of Alternatives, Area 3A

Alternative	Who May Be Affected	Change in Charter Harvest	Economic Costs	Action Objectives
Alternative 1	Status Quo/Baseline	Baseline	Baseline	Baseline
Alternative 2	Approximately 530 charter vessels fished for halibut in 2004. Together these vessels carried 116,600 clients who harvested 197,200 halibut weighing 1.75 million pounds.	This alternative would have reduced charter industry halibut harvest in 2004 by between 160,000 and 235,000 pounds and reduced total harvest to between 94.0 and 96.1 percent of the GHL from the current 2004 level of 100.5 percent of the GHL.	Costs associated with this alternative could include: the potential for lower angler demand and expenditures and the disruption of the multiple trips per day business model.	Lowers current harvest levels to a level below to the current GHL, but provides less expected reductions than Alternative 3.
Alternative 3	Approximately 530 charter vessels fished for halibut in 2004. Together these vessels carried 116,600 clients who harvested 197,200 halibut weighing 1.75 million pounds.	This alternative would have reduced charter industry halibut harvest in 2004 by between 442,000 and 620,000 pounds and reduced total harvest to between 83.5 and 88.4 percent of the GHL from the current 2004 level of 100.5 percent of the GHL.	Costs associated with this alternative could include: the potential for lower angler demand and expenditures, higher costs for crew dependent on halibut harvest for personal consumption, and the disruption of the multiple trips per day business model.	May best meet the objectives of the Council by lowering current harvest levels to a level below the GHL.

Alternative 2 would limit vessels to one trip per day. The analysts estimate that this alternative would have reduced harvest in 2004 from 100.5 percent of the GHL to between 94.0 and 96.1 percent of the Area's GHL. As noted above and discussed in Section 2.6.2, industry members indicated in key informant interviews that the effect of this management measure could be very short-term as the response of operators using the multi-trip per day or overnight trip business models would likely increase the number of boats operated and work to ensure that boats now operated at voluntary less-than-capacity levels are operated at full capacity. Additionally, the analysis likely overestimates the effect of the alternative even without the adaptations above, because excess capacity currently exists in the Southcentral charter fleet. This excess capacity means that a portion of displaced clients are likely to find seats with operators currently using the one-trip-per day business model.

Alternative 3 would limit vessels to one trip per day and eliminate harvest by crew members. The analysts estimate that this alternative would have reduced harvest in 2004 from 100.5 percent of the GHL to between 83.5 and 88.4 percent of the Area's GHL. As with Alternative 2, the portion of the reduction associated with restrictions on the number of trips per day is likely to be overestimated by this analysis and short-lived. The majority of the reduction associated with this alternative comes from the elimination of crew harvests. Industry members indicated to the analysts that this management measure of the alternative is likely to be the most effective, have the greatest long-term effect, and have least economic effect on charter industry members. This appears to imply that the industry would choose Alternative 3 from amongst the listed Alternatives, but would prefer that the one-trip per day limit be removed from the Alternative, as the goal of the measure can be achieved without that management measure.

3.0 REGULATORY FLEXIBILITY ACT

3.1 Introduction

When an agency proposes regulations, the Regulatory Flexibility Act (RFA) (5 U.S.C. § 601-612) requires the agency to prepare and make available for public comment an initial regulatory flexibility

analysis (IRFA) that describes the impact of the proposed actions on small businesses, nonprofit enterprises, local governments, and other small entities. The IRFA is to aid the agency in considering all reasonable regulatory alternatives that would minimize the economic impact on the small entities to which the proposed actions applies.

The level of detail and sophistication of the analysis should reflect the significance of the impact on small entities. Under 5 U.S.C., Section 603(b) of the RFA, each IRFA is required to address:

- 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 actions;
- A description of and, where feasible, an estimate of the number of small entities to which the proposed actions will apply;
- A description of the projected reporting, record keeping and other compliance requirements of the proposed actions, including an estimate of the classes of small entities that will 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 actions;
- A description of any significant alternatives to the proposed actions that accomplish the stated objectives of applicable statutes and that minimize any significant economic impact of the proposed actions on small entities.

3.2 Reasons for Considering the Proposed Action

As described more fully in Section 1.4 of the RIR, in 2000, the Council proposed to establish GHLs for the charter halibut fishery in IPHC Area 2C and Area 3A. At its October 2005 meeting, the Council reviewed final 2004 halibut charter harvest estimates from the ADF&G Sport Fish Division. The data indicated that the GHLs had been exceeded by 22 percent in Area 2C and 1 percent in Area 3A. In response to the new information, the Council initiated an analysis that includes a proposed action to lower halibut charter harvests below the GHLs.

3.3 Objectives and Legal Basis of the Proposed Actions

As described more fully in Section 1.2 of the RIR, the purpose and overall intent of the proposed action is to lower charter halibut harvests in IPHC Areas 2C and Area 3A to below the Area GHLs.

The Northern Pacific Halibut Act of 1982 (16 U.S.C. 773-773k; Pub. L. 97-176, as amended) authorizes the Secretary of Commerce to enforce the terms of the Convention between the United States and Canada for the Preservation of the Halibut Fishery of the Northern Pacific Ocean and Bering Sea. The Secretary promulgates regulations pursuant to this goal in 50 C.F.R. Part 301. The Regional Fishery Management Council responsible for the geographic area concerned (i.e., the Pacific or North Pacific Council) may also develop and implement, with the approval of the Secretary, regulations as deemed necessary to fulfill the purpose of the Convention and this Act. However, the implementation of these regulations is subject to approval by the Secretary of Commerce.

3.4 Description and Number of Small Entities to which the Proposed actions will apply

3.4.1 Definition of a Small Entity

Three types of small entities are defined in the RFA:

Small Business. Section 601(3) of the RFA defines a small business as having the same meaning as small business concern under Section 3 of the Small Business Act. This includes any firm that is independently owned and operated and is not dominant in its field of operation. 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. The SBA definition of a small business applies to a firm's parent company and all affiliates as a single entity.

Small organizations. The RFA defines "small organizations" as any not-for-profit enterprise that is independently owned and operated and is not dominant in its field.

Small governmental jurisdictions. The RFA defines small governmental jurisdictions as governments of cities, counties, towns, townships, villages, school districts, or special districts with populations of less than 50,000.

3.4.2 Description of Small Entities to Which the Proposed actions will apply

Federal courts and Congress have indicated that a RFA analysis should be limited to small entities subject to the regulation.[19] As such, small entities to which the rule will not apply are not considered in this analysis.

The proposed alternatives would apply to businesses providing services in the guided Pacific halibut sport fishery in IPHC Regulatory Areas 2C (Southeast Alaska) and 3A (Southcentral Alaska). There do not appear to be any entities that are directly regulated by the proposed action that would qualify as either "small nonprofit" entities, nor "small government jurisdictions."

3.4.3 Estimate of the Number of Small Entities to Which the Proposed actions will apply

Prior analyses, such as the 2003 GHL analysis and the 1997 GHL analysis (conducted by University of Alaska, Anchorage Institute for Social and Economic Research [ISER] and Council staff) indicated that there are more than 800-plus active charter operations and that historical data (ADF&G logbooks and survey data) indicate a substantial amount of entry and exit from the fishery. These analyses concluded at the time that all of the 800-plus charters are likely small entities based upon SBA criteria, since they were expected to have average annual gross revenues of less than the then annual limit of $5 million. The largest of these companies involved in the fishery, which are lodges or resorts that offer accommodations as well as an assortment of visitor activities, may be large entities under the SBA size standard. Key informant interviews conducted for this analysis indicated that the absolute largest of these companies may gross more than $6.5 million per year, but that it was 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.

[19] *Mid-Tex Elec. Coop v. FERC*, 773 F.2d 327 (D.C. Cir. 1985); *Cement Kiln Recycling Coalition et. al. v. EPA*, 255 F.3d 855 (2001).

The estimation of the number of small entities is likely over inclusive because of the limited information on vessel ownership and operator revenues. However, it is highly likely that nearly all entities qualify as small businesses.

3.5 Description of the Projected Reporting, Record Keeping and Other Compliance Requirements of the Proposed actions

3.5.1 Description of Compliance Requirements of the Proposed actions

As currently envisioned, the proposed actions would not require any new or revised "reporting" or "record keeping" within the meaning of the Paperwork Reduction Act. The proposed actions contain compliance requirements not subject to the Paperwork Reduction Act. Specifically, the proposed action imposes harvest restriction measures:

- The trip limit would allow charter operators to make only one trip per day for each vessel.
- The prohibition on harvest by skipper and crew would reduce the average harvest per trip.
- The annual limit on angler harvest would limit the number of fish an angler would be allowed to harvest for the season.

3.5.2 Description of Compliance Costs Associated with the Proposed Actions

The differing measures of the alternatives have different compliance costs as explained in Section 2.7. For example, some charter operators take two or more trips in any given day and would be affected by the one trip per day trip limit. This limit would reduce the revenues of those operators by allowing them to make only one trip per day unless operators were able to charge more than twice the price of the original trip. However, it is estimated that a relatively small percentage of charter operators make more than one daily trip per vessel.

The ban on harvest by skipper and crew is could result in increased operation costs if crew view halibut harvests as part of their wages. Additionally, crew that must replace halibut harvested while on a charter trip may be forced to purchase replacement food at retail outlets.

Some charter operators have clients who make multiple trips during a year; the annual limit on angler harvest could reduce these operators' revenues by reducing their client's demand for charter trips. ADF&G data indicate that in 2004, 13 percent of one-angler households from the SWHS harvested more than six fish while 16 percent harvested more than five fish. Demand from this segment is more likely to be affected by the proposed regulations if these clients do not transfer their demand for halibut to other species requiring charter access (thus continuing to take the same number of charter trips per year). Charter operators who depend more on multi-day trips or repeat trips by clients within a given year will see greater negative effects than operators with a more diverse clientele or those who focus only on providing a single-day experience. This effect is expected only in Area 2C.

Commercial Fisheries Statement. The effects of the analyzed alternatives on the commercial fishery would be positive given that the alternatives would help reduce charter harvest of halibut to levels closer to, or below, the Area GHLs. However, the long-term efficacy of the current alternatives may be limited given that the alternatives do not address the long-term growth of the charter through increasing client demand and the entry of new vessels into the fleet. Thus, while the alternatives' expected effects on commercial fleet are positive, the duration of these effects is currently unknown. Alternative 3 for both Area 2C and Alternative 3A for Area 3A will provide the largest and most durable positive effects for the

commercial fleet because they generate the greatest reductions in charter fleet harvest. In Area 2C, Alternative 3 would reduce charter fleet harvest to near the GHL, while Alternative 3 for Area 3A would reduce charter fleet harvest to between 11.6 and 16.5 percentage points below the GHL.

Recreational Fisheries Statement. The proposed alternatives could increase demand for halibut from the non-guided sport fishery sector in several ways. Elimination of crew harvests would likely result in some transfer of demand by crew to recreational opportunities. Key informant interviews repeatedly indicated operators and crew would harvest halibut on family recreational trips or on non-working days using charter equipment. The institution of annual limits could encourage anglers who would otherwise have spent more than three or four days fishing for halibut on charter vessels to harvest more halibut through non-guided means.

3.5.3 Estimate of the Regulatory Burden and Distributional Effects

Compliance costs may affect the economic viability of small entities or their ability to provide services. The severity of the economic impact depends on the magnitude of the compliance costs associated with the rule and the economic and financial characteristics of the affected firms and industries. Firms that are relatively profitable would be better able to absorb new compliance costs without experiencing financial distress. Information on revenue, profit or other measures of economic sustainability is unavailable for the small entities to which the proposed actions would apply. However, the estimated regulatory burden is estimated to be highest for the smallest firms and those involved in multiple trips per days. Operators who also depend on clients taking three or more trips per year would also be affected. These operators would either face reduced profits or losses if they are unable to raise charter prices to include the new costs.

3.5.4 Description of Potential Benefits of the Proposed Actions to Small Entities

The proposed alternatives would not directly benefit small entities. Indirectly, the proposed alternatives could protect small entities from further and more onerous regulations.

3.6 Identification of Relevant Federal Rules that may Duplicate, Overlap or Conflict with the Proposed Actions

NOAA Fisheries is unaware of any duplicative, overlapping, or conflicting federal rules.

3.7 Conclusion

The analysts estimate that nearly all of the firms affected by the proposed actions would qualify as small business entities. The compliance costs of the proposed actions will vary widely depending on the size of the firm, the firm's business model, and current business practices. For example, a firm in Area 3A which follows the one trip per day business model while currently banning the harvest of halibut by crew members would not face any compliance cost from the proposed actions. On the other hand, a firm in Area 2C offering multiple trips per day, engaging in crew harvest on a regular basis, and specializing in repeat customers would face the maximum compliance costs associated with the proposed actions. While the majority of firms are likely follow the single trip per day model, most firms are likely to experience some form of compliance costs associated with the proposed actions. A small portion of firms are likely to endure substantial compliance costs, and these firms are likely to be concentrated in specific communities that specialize in multiple trips per day (e.g., Deep Creek, Ninilchik) or where operators specialize in longer-stay experiences. The overall effect of these costs will depend upon the size of the firm and extent of the compliance costs.

4.0 CONSISTENCY WITH OTHER APPLICABLE LAWS

4.1 Introduction

This section discusses the consistency of the proposed actions with the North Pacific Halibut Act of 1982, Magnuson-Stevens Act, and the Regulatory Flexibility Act.

This North Pacific Halibut Act of 1982 governs the promulgation of regulations for managing the halibut fisheries in both State and Federal waters. The language in the Halibut Act regarding the authorities of the Secretary of Commerce and the Regional Fishery Management Council is excerpted below:

> *"The Regional Fishery Management Council having authority for the geographic area concerned may develop regulations governing the U.S. portion of Convention waters, including limited access regulations, applicable to nationals or vessels of the U.S., or both, which are in addition to, and not in conflict with regulations adopted by the Commission. Such regulations shall only be implanted with the approval of the Secretary, shall not discriminate between residents of different States, and shall be consistent with the limited entry criteria set forth in Section 303(b)(6) of the Magnuson Act. If it becomes necessary to allocate or assign halibut fishing privileges among various U.S. fishermen, such allocation shall be fair and equitable to all such fishermen, based upon the rights and obligations in existing Federal law, reasonably calculated to promote conservation, and carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of the halibut fishing privileges…"*

From the language in the Halibut Act, it is clear that while jurisdictional authority for the limited access and other allocation measures resides within the provisions of the Halibut Act, consideration of those types of measures is subject to many of the same criteria described under the Magnuson-Stevens Act. In particular, the 303(b)(6) provisions of the Magnuson-Stevens Act and the language from National Standard 4 are directly referenced. Therefore, the following sections are included to discuss the consistency of the proposed alternatives relative to certain provisions of the Magnuson-Stevens Act and other applicable laws, without regard for whether such treatment is formally required.

4.2 National Standards

Below are the 10 National Standards as contained in the Magnuson-Stevens Act (Act), and a brief discussion of the consistency of the proposed alternatives with those National Standards, where applicable.

National Standard 1–*Conservation and management measures shall prevent overfishing while achieving on a continuing basis, the optimum yield from each fishery.*

Alternative 1 allows charter boats to harvest an unlimited amount of halibut. Consequently, under Alternative 1 for both Areas, commercial harvest would have to be reduced to limit the potential for overfishing. The proposed action alternatives would result in foregone harvests and would result in the charter fleet harvests more closely tracking the GHL. To the extent that the GHLs are followed, the possibility of overfishing is lessened. In 2004, Area 3A alternatives would have reduced harvest by the equivalent of between 0.3 and 1.5 percent of the IPHC's 25 percent CEY for Area 3A while Area 2A Alternative would have reduced harvest by between 0.9 and 1.6 percent of the IPHC's 25 percent CEY for Area 2C

National Standard 2–*Conservation and management measures shall be based upon the best scientific information available.*

While information on the charter industry is less definitive than for most commercial fisheries management considerations, this document uses the best available information from the Alaska Department of Fish and Game and the International Pacific Halibut Commission.

National Standard 3–*To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.*

The Pacific Halibut stock is considered by the IPHC to be a single stock in the North Pacific, though with significant migratory patterns and shifts in distributions, both within and across years. However, it is managed by more discrete regulatory areas (Areas 3A and 2C for example) as is described in the analysis.

National Standard 4–*Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various U.S. fishermen, such allocation shall be (A) fair and equitable to all such fishermen.*

None of the proposed alternatives would differentially affect residents by state as none of the alternatives would allocate disproportionate fishing privileges.

National Standard 5–*Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources, except that no such measure shall have economic allocation as its sole purpose.*

While economic allocation between the commercial and charter fisheries is a potential consequence of the alternatives, various other considerations are identified in the Problem Statement and are considered in the analyses.

National Standard 6–*Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.*

The proposed alternatives are structured to, among other objectives, accomplish what is implied by National Standard 6. Under the existing management structure, increases in the catch of halibut are at the expense of the commercial fleet, because projected catch by the charter fleet is taken off the top prior to setting the commercial quotas. A system of percentage allocations (via a GHL) between the charter fleet and the commercial fleet might potentially provide a more fair and equitable basis for distributing the quota when there are natural fluctuations in the biomass.

National Standard 7–*Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.*

Eliminating crew harvest, allowing only one trip per day, or a cap on the annual catch by charter clients, or any combination of those would increase costs of management relative to the status quo. However, the measures are non-duplicative and additional costs are likely to be small.

National Standard 8–*Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the important of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.*

The alternatives within this analysis are specifically proposed to, among other things, deal with issues relating to community stability. For example, one of the primary problems identified with the status quo

is the open-ended reallocation from commercial to charter fishing, and the attendant potential impacts to coastal communities that rely on the commercial halibut fishery. This is complicated by the fact that the charter fleet, in most cases, is based in those same communities, and stability for the community as a whole is based on trade-offs between those two sectors within the community. Measures to limit the charter catch within the GHL have the potential to enhance overall community stability by defining the expectations of all users of the halibut resource. Overall economic activity within communities may be more of a trade-off between sectors within the community, though one sector may contribute more economic activity per fish than the other.

National Standard 9–*Conservation and management measures shall, to the extent practicable, (A) minimize bycatch, and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.*

Not applicable to this issue.

National Standard 10–*Conservation and management measures shall, to the extent practicable, promote the safety human life at sea.*

Public and law enforcement testimony has raised safety concerns of bareboat rentals. The annual limit management measures could indirectly promote the growth of this business model.

4.3 Section 303(a) (9) – Fisheries Impact Statement

The Magnuson-Stevens Act requires that any management measures submitted by the Council take into account potential impacts on the participants in the fisheries, as well as participants in adjacent fisheries. Without regard to whether this fisheries impact statement is formally required under the proposed action, the following information is provided. The impacts of the proposed alternatives have been discussed in previous sections of this document. The action alternatives would not curtail the charter fishing season, but could influence client demand for trips and require certain businesses to change their business model. In addition, certain alternatives could shift demand from halibut to other species and change the spatial nature of demand over time. The effects of changing business models and the spatial shift of demand are likely to affect not only businesses but communities as well. Participants in other fisheries (e.g., salmon, rockfish, and lingcod) could find themselves facing additional competition from displaced halibut anglers.

Not imposing measures to limit charter catches to their GHL could reduce the amount of halibut available to the commercial fisheries, particularly if the charter fishery continues to expand and the halibut quota decreases.

4.4 Section 303(b)(6) – Limited Entry Requirements

Under Section 202(b)(6) of the Magnuson-Stevens Act, the council and Secretary of Commerce are requires to take into account the following factors when developing a limited access system: (a) present participation in the fisheries, (b) historical fishing practices in, and dependence on, the fisheries, (c) the economics of the fisheries, (d) the capability of fishing vessels used in the fisheries to engage in other fisheries, (e) cultural and social framework of the fisheries, and (f) any other relevant considerations. This document does not discuss limited entry alternatives and therefore this section is not applicable.

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APPENDIX I. Development of the Council's GHL policy by year of Council action

1993. The Council began considering management alternatives for the halibut sport fisheries in September in response to a proposal from the Alaska Longline Fishermen's Association (ALFA) in Sitka. The proposal cited the "rapid, uncontrolled growth of the guided halibut charter industry" off Alaska. Because the harvest limits for the commercial longline fishery are set after deducting the estimated harvests by sport fishing (and all other harvests), ALFA was concerned that further growth would result in a reallocation of halibut from the traditional directed longline fishery. They were particularly concerned because the resource is fully utilized and CEYs were projected to decline (ALFA proposal, May 1993).

Based on Council discussion, public testimony, and evidence citing projected continued growth of the charter industry, the Council determined that some type of management program for the halibut charter fishery, including potential limited entry, warranted further consideration. The Council also approved a control date of September 23, 1993 as a potential cutoff date in the event of a moratorium on further entry into the fishery (this control date was never published in the *Federal Register).*

The Council established a Halibut Charter Working Group (Work Group) comprised of staff, three commercial fishery representatives, one non-charter fish representative, and six charter vessel representatives to identify and examine potential management alternatives for the sport fisheries. The Work Group was requested to further develop suitable elements and options for a regional or statewide moratorium on new entry of halibut charter vessels. Although the Working Group did not agree on appropriate management alternatives, it did collect extensive information on the fishery for Council consideration relative to various alternative management measures.

1995. The Council had deferred further action because of other priorities but in January, the Council again reviewed the Work Group findings, took public testimony, and discussed further development of management alternatives. The Council formulated a problem statement and specific management alternatives. Formal analysis, however, was delayed by other tasking priorities for staff and the lack of funding for outside research contracts to acquire the necessary analytical expertise on the sport fisheries. At the end of 1995 and beginning of 1996, Council funding was delayed due to Congressional budget debate. Funding became available in mid-1996.

1996. In June, the Council again discussed the halibut charter issue, and narrowed the alternatives for analysis. The Council decided to focus management alternatives only on the charter fishery (the fastest growing segment based on IPHC and ADF&G reports), thus removing non-charter halibut sport fishery from further consideration. The Council also deleted the alternative for a separate IFQ system for the charter fishery, but retained an option to allow the charter sector to purchase or lease existing commercial IFQs, in the event a cap closed the fishery early. Finally, the Council deleted an absolute poundage cap on the charter fleet, but retained an option for a floating cap expressed as a percentage of the overall available quota. After a research solicitation process, and after reviewing several proposals, a contract was awarded in September to the University of Alaska Institute for Social and Economic Research (ISER).

1997. During initial review in April, the Council added contemporary control date options of April 15, 1997, and the date of final action in September 1997. In September, the Council took final action on the following two management actions affecting the halibut charter fishery, culminating more than four years of discussion, debate, public testimony, and analysis.

Recordkeeping and reporting requirements. The Council approved recording and reporting requirements for the halibut charter fishery. To comply with this requirement, the Alaska Department of Fish and Game

(ADF&G) Sport Fish Division, under the authority of the Alaska Board of Fisheries (BOF), implemented a Saltwater Sportfishing Charter Vessel Logbook (SCVL) in 1998. Information collected under this program includes: number of fish landed and/or released, date of landing, location of fishing, hours fished, number of clients, residence information, number of lines fished, ownership of the vessel, and the identity of the operator. This logbook information is essential for the analysis of charter moratorium alternatives. It complements additional sportfish data collected by the State of Alaska through the Statewide Harvest Survey (SWHS), conducted annually since 1977, and the on-site (creel and catch sampling) surveys conducted separately by ADF&G in both Southeast and Southcentral Alaska.

Guideline Harvest Levels in IPHC Areas 2C and 3A. The Council adopted GHLs for the halibut charter fishery, but only for IPHC Regulatory Areas 2C and 3A. They were based on the charter sector receiving 125% of their 1995 harvest (12.35% of the combined commercial/charter halibut quota in Area 2C, and 15.57% in Area 3A). The Council stated its intent that the GHLs would not close the fishery, but instead would trigger other management measures in years following attainment of the GHL. The overall intent was to maintain a stable charter season of historic length, using statewide and zone specific measures. If end-of-season harvest data indicated that the charter sector likely would reach or exceed its area-specific GHL in the following season, NMFS would implement the pre-approved measures to slow down charter halibut harvest. Given the one-year lag between the end of the fishing season and availability of that year's catch data, it was anticipated that it would take up to two years for management measures to be implemented.

Also in September, the Council adopted a framework for developing local area management plans (LAMPs) using the joint Council/Alaska Board of Fisheries protocol. LAMPs would be submitted through the BOF proposal cycle, and portions of the plans pertaining to halibut would ultimately require Council approval and NMFS implementation. One LAMP, for Sitka Sound, has been implemented (final rule published on October 29, 1999).

In December, the NMFS Alaska Regional Administrator (RA) informed the Council that the GHL would not be published as a regulation. Further, since the Council had not recommended specific management measures to be implemented by NMFS if the GHL were reached, no formal decision by the Secretary was required for the GHL. Therefore, the analysis never was forwarded for Secretarial review. The Council's intent, however, partially was met by publishing the GHL as a notice in the *Federal Register* on March 10, 1998. It did not constrain the charter fishery, but did formally announce the Council's intent to establish measures to maintain charter harvest at or below the GHL using 1995 as the baseline year. Following a recommendation in April 1998 to set a revised control date for possible limited entry into the halibut charter fishery, NMFS published a new control date of June 24, 1998, in the *Federal Register*.

1998. After being notified that the 1997 Council analysis would not be submitted for Secretarial review, the Council initiated a public process to identify GHL management measures. The Council formed a GHL Committee comprised of one Council member representing the charter industry, one BOF member representing the charter industry, two charter industry representatives from Area 2C, two charter industry representatives from Area 3A, one unguided sport representative from Area 3A, and two subsistence/personal use representatives from Area 2C. The Committee's task was to recommend management measures for analysis that would constrain charter harvests under the GHL. It convened in February and April and January 1999. The two subsistence/personal use committee members voluntarily stepped down from the Committee after the first meeting due to travel costs. The Council discussed and approved with modifications the recommendations of the committee and Advisory Panel for analysis in 1998 and again in early 1999.

1999. In April, the Council identified for analysis: (1) a suite of GHL management measure alternatives; (2) alternatives that would change the GHL as approved in 1997; and (3) area-wide and LAMP

moratorium options under all alternatives. Recognizing that (1) reliable in-season catch monitoring is not available for the halibut charter fishery; (2) in-season adjustments cannot be made to the commercial longline individual fishing quotas (IFQs); and (3) the Council's stated intent to not shorten the current charter fishing season resulted in the Council designing the implementing management measures to be triggered in subsequent fishing years.

During initial review in December, the Council added: (1) a change in possession limits to the management measures that it would consider to limit charter halibut harvests under the GHL; (2) an option to apply the GHL as a percentage of the CEY by area after non-charter and personal use deductions are made, but prior to deductions for commercial bycatch and wastage; (3) an option to manage the GHL as a 3-year rolling average. Lastly, the Council deleted an option to close the charter fishery in-season if the GHL was reached or exceeded. The Council further adopted the restructured alternatives as proposed by staff.

2000. During final action in February, the Council modified Alternative 2 and selected the new alternative as its preferred alternative. The Council's preferred alternative is listed below. The analysis originally was submitted for NMFS review on July 13, 2000. In December, ADF&G staff reported that the SWHS survey estimates of charter harvest were corrected for 1996-98. The Council accepted the corrected estimates and the analysis submitted to the Secretary was revised.

2001. Subsequent drafts were resubmitted to NMFS on February 14 and September 26 in response to NMFS requests for revisions.

2002. The final draft was submitted on March 28. On September 6, the RA notified the Council that its preferred alternative could not be submitted for Secretarial review because the frameworked management measures to reduce halibut charter harvests under the GHL likely would require additional public comment under the APA rulemaking process. NMFS identified a preferred alternative to implement a GHL that would set a ceiling level of 1,432,000 lb net weight in Area 2C and 3,650,000 lb net weight in Area 3A, and would require a letter of notification from NMFS to the Council when a GHL is reached or when abundance declined such that the GHL would be reduced.

2003. NMFS issued a final rule to implement a GHL in the two areas (68 FR 47256, August 8, 2003). The GHL established an amount of halibut that may be harvested annually in the charter fishery. This action was necessary to allow NMFS to manage more comprehensively the Pacific halibut stocks in waters off Alaska. It was intended to further the management and conservation goals of the Halibut Act.

2004. Charter halibut harvests were determined to have exceeded the GHLs in both Area 2C and 3A in the first year of the GHL Program.

2005. Upon receiving a report from ADF&G that the GHLs were exceeded in 2004, the Council initiated this analysis in October 2005 to identify management measures to lower the charter halibut harvests in the two areas.

2006. Council scheduled action in 2006 to recommend management measures to lower charter halibut harvests.

APPENDIX II. Management measure matrix adopted by the Council in 2000.

Area 2C Management Tools	
Required Reduction	Management Tool
<10%	Trip Limit
10% - 15%	Trip Limit No Harvest by Skipper + Crew
15% - 20%	Trip Limit No Harvest by Skipper + Crew Annual Limit of 7 Fish
20% - 30%	Trip Limit No Harvest by Skipper + Crew Annual Limit of 6 Fish
30% - 40%	Trip Limit No Harvest by Skipper + Crew Annual Limit of 5 Fish
40% - 50%	Trip Limit No Harvest by Skipper + Crew Annual Limit of 4 Fish
>50%	Trip Limit No Harvest by Skipper + Crew Annual Limit of 4 Fish One Fish Bag Limit in August

Area 3A Management Tools	
Required Reduction	Management Tool
<10%	Trip Limit
10% - 20%	Trip Limit No Harvest by Skipper + Crew
20% - 30%	Trip Limit No Harvest by Skipper + Crew Annual Limit of 7 Fish
30% - 40%	Trip Limit No Harvest by Skipper + Crew Annual Limit of 6 Fish
40% - 50%	Trip Limit No Harvest by Skipper + Crew Annual Limit of 5 Fish
>50%	Trip Limit No Harvest by Skipper + Crew Annual Limit of 4 Fish One Fish Bag Limit in August