Discussion Paper:
Implementation of an Annual Limit for Charter Anglers in Area 2C

October 2006

Lead Agency National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Alaska Regional Office
Juneau, Alaska

Responsible Official Robert D. Mecum
Acting, Regional Administrator
Alaska Regional Office

For Further Information Jason Gasper
National Marine Fisheries Service
P.O. Box 21668
Juneau, AK 99802
(907) 586-7228

Abstract: In April 2006, the North Pacific Fishery Management Council (Council) adopted the GHL preferred alternative to limit the harvest of halibut to 5-fish per angler fishing from a charter vessel in Area 2C. At its June 2006 meeting, the National Marine Fisheries Service (NMFS) indicated the costs for implementing the annual limit were likely high and requested that the Council reconsider the annual limit after it provides a more detailed estimate of programmatic costs. This discussion paper addresses the NMFS request by providing a detailed summary of the costs associated with implementing the annual limit, and includes a description and estimate of costs associated with using a Federal or State of Alaska recordkeeping and reporting system. This paper found that using the State of Alaska reporting system was the most cost effective and least burdensome method. However, the cost and time burdens associated with the harvest limit are substantial. As a result NMFS recommends that the Council reconsider the action to implement the annual limit.

This page purposely left blank

Table of contents

List of figures

List of tables

Executive summary

In an effort to bring the harvest of Pacific halibut by charter anglers closer to the guideline harvest level (GHL), the Council voted unanimously at its April 2006 meeting in Anchorage, Alaska to adopt the GHL preferred alternative to limit the harvest of halibut by each angler fishing from a sport charter vessel to 5 - fish per year in regulatory Area 2C. In making the motion for this action, the State of Alaska (State) representative, Commissioner of Fish and Game McKie Campbell, asserted that he intended to exercise State emergency order (EO) authority to impose a prohibition on the harvesting of fish by skipper and crew aboard charter vessels. Hence, the Advisory Panel (AP) of the Council recommendation for the 5-fish annual limit in Area 2C was supported, but the prohibition on skipper and crew harvests was deemed unnecessary by the Council because of the State's intention to issue an EO.

Detailed information about administering and enforcing the five-fish limit was not available at the April 2006 Council meeting. Ms. Salveson, the National Marine Fisheries Service's (NMFS) representative to the Council, indicated NMFS would need to explore whether State sport fishing licenses could be used to enforce the annual limit. As a result, the Council requested that NMFS provide a report outlining administration and enforcement issues during its June 2006 meeting in Kodiak, Alaska.

NMFS, in consultation with the National Oceanic Atmospheric Administration Office of Law Enforcement (NOAA OLE) notified the Council through a letter and presentation at the June 2006 meeting that the annual limit would require Federal recordkeeping and reporting tools, including a Federal angler permit and charter vessel logbook. Detailed information about the implementation costs associated with a Federal reporting program was not available. However, because of the scope of the program, enforcement and administrative costs were thought to be substantial. As a result, the Council supported the development of a discussion paper to consider administrative and enforcement costs.

Several approaches may be taken to implement the Council's action and satisfy NOAA OLE requirements. The following two approaches are discussed here in detail: (1) utilization of the State charter logbook and angler licensing information; and (2) implementation of a Federal halibut logbook and angler catch card using either hard copy or electronic reporting methods. A summary of these options is provided below.

Use of State charter logbook and angler license

The information provided in the 2006 Saltwater Charter Logbook and Vessel Registration (SCVL) and angler sport fishing licensing requirements would meet NOAA OLE information requirements. However, the logbook, sport fishing license, and State issued catch card would need to be modified to allow charter guides and anglers to record the harvest of halibut prior to the most current fishing trip. To accommodate this information, the SCVL would require charter guides to enter historical halibut catch for each angler in the logbook. In addition, State license regulations would need to be modified to require anglers or the charter guide to record harvested halibut on the back of the angler's sport fishing license or the angler harvest card at the time when harvesting a halibut.

Although State recordkeeping and reporting requirements meet Federal information needs, current State statute and administration policy prevent NOAA OLE from accessing SCVL or angler license information. Federal access to these sources of information would require the following regulatory and administrative changes:

(1) The State of Alaska legislature would need to amend the State confidentiality statute to allow NOAA OLE and NMFS access to confidential angler and operator information.

(2) NOAA OLE would need to be deputized by the State of Alaska Commission of Public Safety. NOAA OLE needs the authority to inspect logbooks, angler licenses, or catch cards

Federal recordkeeping and reporting requirements

A Federal logbook and angler catch card program could be implemented using written hard copy or electronic media. The written option would require charter guides complete a Federal logbook and anglers would be required to obtain a Federal catch card. The charter logbook would be serially linked to the angler catch card to allow a comparison of individual angler catch across several charter vessels. This is necessary to allow an end of season audit in which anglers who caught more than five fish would be "flagged" for further enforcement action.

Electronic reporting of charter logbook information could be used in conjunction with the ADF&G angler license or Federal catch card and ADF&G logbook. Logbook information for each individual angler could be electronically reported to NMFS by linking the serialized number from the angler sport fishing license, permanent identification card, disabled veterans license, or Federal catch card with harvest information in the logbook. This information could be reported by the charter operator using an internet website or via a telephone

Costs and preferred method

Federal use of the State charter logbook and angler license is the most cost effective and least burdensome method to enforce the annual limit. The largest cost associated with the use of State recordkeeping and reporting tools is that associated with enforcement. To adequately enforce the 5-fish annual limit, NOAA OLE would need four enforcement officers at a cost to the agency of $600,000 annually. In addition, NMFS would need to hire a part time staff person to coordinate with the State, assist in the preparation of cases, and update the database as required. This method would also not impose any additional time burden on charter clients or charter guides than what currently occurs in the fishery.

Conclusions

- Use of State recordkeeping and reporting tools is the most cost effective and least burdensome method for charter guides and charter anglers. However, Federal use of the State reporting has several associated issues:

    - Use of the State charter logbook and angler license would require the State to change confidentiality law (legislative change) and authorize NOAA OLE to enforce State sport fish regulations.

    - A Federal reporting program would be required if, after the annual limit was promulgated, State recordkeeping and reporting requirements, laws (i.e., confidentiality laws), authorities granted to NOAA OLE, are changed such that they do not meet the requirements to enforce the annual limit. The State may change its logbook and angler license requirements at any point in time, including a change to the information requirements for charter operators and anglers. These changes may result in State reporting tools not meeting information requirements as stated in Federal regulation.

- Implementation of the annual limit would require an increase in NMFS staff resources or a redirection of staff from current management programs. Staff resources are fully allocated to current management activities. A redirection of current staff resources would reduce the agency's ability to meet current management objectives.

- Implementation of other management measures (e.g., charter moratorium program) may be slowed down because of the large amount of staff time required to draft regulations and implement the annual limit.

- The annual limit is not expected to lower charter halibut harvest to the GHL and in the future, if harvest falls below the annual limit, removal of the regulation would require proposed and final rulemaking process**.**

- The effectiveness of the annual limit may be undermined if the State does not issue an EO prohibiting the harvest of halibut by skipper and crew. During a charter trip, and prior to offloading halibut, anglers fishing from a charter vessel may receive halibut "gifted" to them from skipper and crew. Gifted fish would not count towards an angler's annual limit.

1.0 Introduction

1.1 Purpose of this discussion paper

The purpose of this discussion paper is to provide the North Pacific Fishery Management Council (Council) with an estimate of costs associated with implementing the 5-fish annual limit proposed for charter anglers[1] operating in Area 2C (Southeast Alaska). This discussion paper provides an overview, cost estimate, and time burden estimate associated with implementing recordkeeping and reporting requirements necessary to insure the regulation is enforceable, if promulgated. Several recordkeeping and reporting methods are discussed in this paper. These methods include Federal use of existing Alaska Department of Fish and Game (ADF&G) charter logbook and angler licensing information, and a Federal charter logbook and angler licensing program with options for written or electronic reporting.

1.2 Background

In October 2005, the Council reviewed the estimated halibut harvest of the guided sport charter fishery in 2004. These estimates were produced by the ADF&G, Sport Fish Division. The data indicated that the Guideline Harvest Level (GHL) had been exceeded by 22 percent in International Pacific Halibut Commission (IPHC) Area 2C and by less than 1 percent in IPHC Area 3A (Southcentral Alaska). The 2004 GHLs equate to 1,432,000 lb (net weight) for Southeast Alaska and 3,650,000 lb for Southcentral Alaska. In response to the GHL overage, the Council created a GHL Committee and initiated an analysis (EA/RIR/IRFA)[2] of alternative actions that would lower charter boat halibut harvests to or below the GHLs. Council staff prepared an EA/RIR/IRFA that was reviewed by the GHL Committee and the Council in February 2006, and acted on by the Council in April 2006. The analysis considers several management measures including trip limits, skipper and crew harvest restrictions, and the 5-fish annual limit for charter anglers.

In an effort to bring the harvest of Pacific halibut by charter anglers closer to the GHL, the Council voted unanimously at its April 2006 meeting to support its GHL preferred alternative which is to limit the harvest of halibut by each angler fishing from a sport charter vessel to five fish per year in regulatory Area 2C. In making the motion for this action, the State of Alaska (State) representative, Commissioner of Fish and Game McKie Campbell, asserted that he intended to exercise State emergency order (EO) authority to impose a prohibition on the harvesting of fish by skipper and crew aboard charter vessels. Hence, the Advisory Panel (AP) of the Council recommendation for the 5-fish annual limit in Area 2C was supported, but their recommended prohibition on skipper and crew harvests was deemed unnecessary by the Council. The Council did not support the AP recommendation to constrain charter vessel harvests in regulatory area 3A (Central Gulf of Alaska) because the anticipated charter vessel harvests of halibut in that area are expected to be at or below the GHL, and Campbell indicated State EO authority could be used to limit skipper and crew harvest, if necessary.

In addition to the annual limit and ban on harvest by skipper crew, the Council also considered a motion to limit charter operators in Area 2C to one trip per day. This management measurement was expected to reduce charter halibut catch by approximately 0.5 to 1.2 percent. The motion to consider a trip limit failed, leaving only two options; the GHL measure to limit each angler fishing from a charter vessel to 5-fish per year, and the State's ban on skipper and crew harvest. The expected effect from the 5-fish annual

[1] For the purpose of this discussion paper, the term "charter angler" refers to any licensed angler fishing from a charter vessel when paying clients are on board.
[2] Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis (EA/RIR/IRFA)

limit was an approximate 13 percent reduction in charter halibut harvested in Area 2C (Council 2006). A prohibition on skipper and crew retention without the annual limit would have reduced halibut harvest between 3.3 percent and 4.5 percent of the GHL. However, skipper and crew harvest of six or more fish during the calendar year may be eliminated through the 5-fish annual limit. Thus, the impact of the five-fish annual limit with a ban on harvest by skipper and crew in place would be reduced because a portion of the anglers affected by the annual limit are likely skipper and crew. The effect of a 5-fish annual limit combined with the elimination of crew and skipper harvest is largely unknown because of data limitations.

Detailed information about administering and enforcing the five-fish limit was not available at the April 2006 Council meeting. Ms. Salveson, National Marine Fisheries Service's (NMFS) representative to the Council, indicated NMFS would need to explore whether State sport fishing licenses could be used to enforce the annual limit. As a result, the Council requested that NMFS provide a report outlining administration and enforcement issues during its June 2006 meeting in Kodiak, Alaska. NMFS, in consultation with the National Oceanic Atmospheric Administration Office of Law Enforcement (NOAA OLE) notified the Council through a letter and presentation at the June 2006 meeting that the annual limit would require Federal recordkeeping and reporting tools, including a Federal angler permit and charter vessel logbook.

NMFS' determination that a Federal reporting program would be needed was based on several issues: (1) the Northern Halibut Act of 1982 (Halibut Act) requires NMFS to enforce and administer Pacific halibut regulations; (2) the Halibut Act does not allow NMFS to delegate, contract, or transfer enforcement responsibility to the State; (3) State confidentiality statute prevents the transfer of charter halibut logbook and angler information (including fishing license information) from the State to NMFS or NOAA OLE; and (4) anglers are not required to show Federal enforcement officers their State fishing licenses because NOAA OLE is not authorized[3] to enforce State sport fishing regulation.

When NMFS presented the letter at the June Council meeting, detailed information about the implementation costs associated with a Federal reporting program was not available. However, because of the scope of the program, enforcement and administrative costs were thought to be substantial. This discussion paper addresses that request by providing an overview of the costs and issues associated with several alternative implementation strategies for the 5-fish annual limit.

1.3 Entities regulated under the proposed limit

Regulations for the proposed annual limit would be directed at anglers fishing for halibut and charter operators offering guided halibut services in Area 2C. The annual limit was directed at anglers paying for charter services to fish for halibut. However, under this interpretation of the annual limit, crew and skipper could continue to harvest halibut and provide those halibut to the anglers. The regulation could be promulgated to enforce the annual limit on anglers (charter angler) fishing from a vessel in which at least one angler on-board the vessel hired a guide to offer halibut fishing services. This definition is inclusive of skipper and crew harvesting halibut from the vessel. The Council took no action on the skipper and crew harvest option in the EA/RIR/IRFA largely because the State indicated its intent to issue an EO banning such harvest.

If the State's EO to ban skipper and crew harvest in Area 2C had not been issued, skipper and crew would be allowed to retain their bag limit of halibut and give those halibut to clients as a gift. This action would

[3] To enforce State law, NOAA OLE would need authorization (deputization) from the State Commissioner of Public Safety.

allow charter anglers to obtain more halibut than the annual limit by allowing skipper and crew to give halibut to charter anglers.

The annual limit regulations would also require charter operators (guides and businesses) to be responsible for compliance with all Federal recordkeeping and reporting requirements. These recordkeeping and reporting requirements are outlined in detail in Section 2.0 of this discussion paper.

1.4 Enforcement considerations

The annual limit would substantially increase Federal enforcement and administrative costs in Area 2C. In 2004, approximately 67,800 licensed anglers, distributed over 624 charter vessels, fished from a charter vessel[4] in Area 2C. Of these anglers, approximately 9 to 16 percent[5] (6,000 to 11,000 anglers, including skipper and crew) harvested six or more halibut that year (Figure 1). Given that the daily bag limit for halibut is two fish, anglers harvesting five fish or more would have fished at least three days. Data limitations prevent estimating the distribution of multi-day anglers who operate from lodges, remote communities, or are crew members; however, because these lodges offer multi-day angling trips, a portion of the clients likely caught more than five halibut.

Providing enforcement to lodges and multi-day fishing charters presents a unique set of logistical issues for NOAA OLE. Lodges may have a single charter vessel or a group of charter vessels operating in remote areas that are only accessible by airplane or boat. These remote fishing operations increase the enforcement costs for several reasons: (1) travel time to and from the enforcement area is increased; (2) enforcement activities may require several days to adequately cover an area; and (3) angler patterns such as fishing locations, the timing for the departure and arrival of new clients, and daily fishing schedule are poorly understood. It is important that NOAA OLE has adequate staff and enforcement tools to overcome these issues to ensure the annual limit is perceived as credible (i.e., they may get caught if in violation) by anglers.

[4] This estimate does not include anglers under the age of 16 or those that have a State-issued Permanent Identification Card (60 years of age of older).

[5] Variability estimates are approximate confidence intervals that incorporate the variability in estimating the original proportions, but do not incorporate the variability associated with estimating the total number of chartered anglers. Moreover, because these estimates are derived from only single angler household responses to the ADF&G Statewide Harvest Survey, it is assumed that single angler households have similar harvest characteristics as multiple angler households.

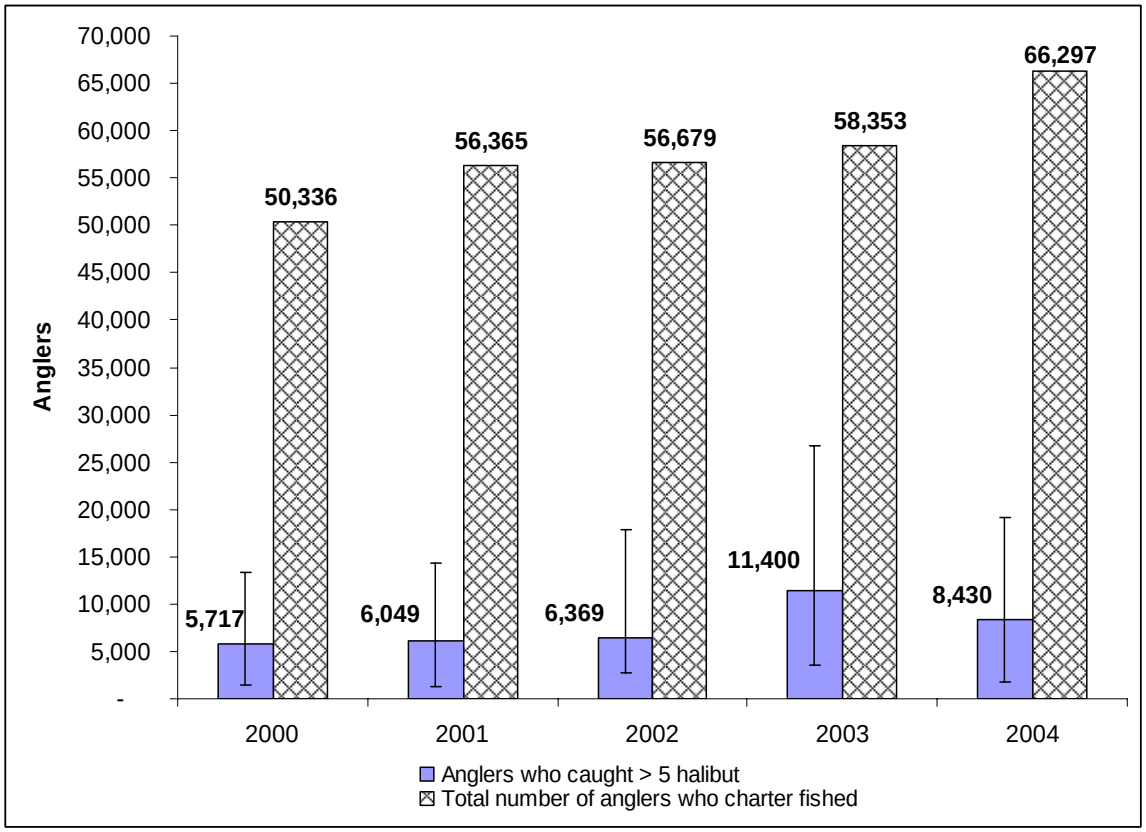

Figure 1. Total number of charter anglers (hatched bars) versus anglers estimated to have harvested six or more halibut. Ninety-five percent confidence intervals are provided for the estimate of anglers who caught more than six fish. Note that variability estimates are provided in the form of approximate confidence intervals that incorporate the variability in estimating the proportion of anglers who caught six or more fish. The 95 percent confidence intervals do not incorporate the variability associated with estimating the total number of chartered anglers and thus do not completely incorporate all variability.

The credibility of an enforcement effort depends on several factors, including the likelihood of detecting a violation, the swiftness of the enforcement response, and the perception that enforcement actions are real[6] (Iannuzzi 2002). Moreover, deterrence-based enforcement is most successful when a well developed compliance program is designed to identify and correct violations, establish an enforcement presence, collect evidence needed to support enforcement actions, and help target enforcement activities (Rechtschaffen and Markell 2003). In the case of the charter fishery, detection of a violation for the annual limit would be heavily reliant on reporting requirements for charter anglers and operators, and the ability of enforcement to enforce regulations in remote areas. Without sufficient documentation of a

[6]The enforcement actions discussed in this paper are largely dependent on a deterrence enforcement model, which is commonly employed by NMFS. A deterrence enforcement model relies on the assumption of rational choice which means that individuals choose among alternatives rationally to maximize satisfaction of their preferences (Mallow 2003). The normative enforcement model is also commonly discussed in the literature. This model relies on people complying with the law because they have a sense of obligation to follow social norms (Mallow 2003; Rechtschaffen and Markell 2003). Assuming a deterrence-based enforcement model is used, an enforcement action may be perceived as real if the actor for which the enforcement activity is being directed perceives a chance of receiving a sanction for a violation.

violation, cases will not be prosecuted, which may reduce the credibility and effectiveness of the regulation.

These issues were addressed in a June 2006 NOAA OLE memo and during a meeting between NOAA Fisheries, Council Staff, NOAA OLE, ADF&G, and NOAA General Counsel. In the memo and at the meeting, NOAA OLE indicated the following criteria must be met for the annual limit to be enforceable:

- NOAA OLE would need the ability to check for compliance at-sea, dockside, and through a post season audit of angler catch. To meet these needs, a harvest record indicating the number of halibut harvested would be needed for each angler, as well as a vessel specific record of each anglers catch (serially matched to an angler's catch card) that would be submitted to NOAA OLE on a regular basis throughout the fishing season. A vessel-specific record would be needed to track the charter operators involved with violations. The angler harvest record would be used during dock-side or at-sea enforcement and to provide a record of angler-specific halibut harvest for the charter guide.

- Use of State recordkeeping and reporting tools would require NOAA OLE to obtain the necessary authority to inspect State recordkeeping tools (i.e., charter logbook and sport fishing license). Because of State statutory law, the Federal government cannot obtain charter logbook or angler license information at the resolution necessary for enforcement. Moreover, NOAA OLE is not authorized by the State to enforce State regulations, and thus cannot require an angler to show his or her license to an enforcement agent.

- NOAA OLE would need the ability to audit charter logbooks at the end of a charter fishing season. This audit would reveal anglers that exceeded the 5-fish annual limit, including anglers who fished on multiple charter vessels.

Section 2.8.4 of the draft EA/RIR/IRFA for the 5-fish annual limit presents a discussion on recordkeeping and reporting requirements (Council 2006). Included in this discussion is a summary from a meeting held between representatives from NOAA Fisheries, ADF&G, Alaska Department of Public Safety, and the United States Coast Guard (USCG). The summary reported that the charter industry has unique characteristics that may increase regulatory compliance for the GHL (Council 2006):

> *…there are characteristics of the recreational 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… onboard charter vessels would help promote compliance. The State could further support by requiring those businesses selling sport fishing 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 charters. It is reasonable to expect that those operators who are following the rules would be quick to notice another operator who wasn't following the rules.*
>
> c) *…because of the nature of Coast Guard license requirements, 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.

These points are useful for augmenting enforcement efforts, but all may in part rely on the enforcement effort being perceived as credible by charter operators and the angling public[7]. It is unlikely that point (a) above could be mandated due to the additional enforcement required to insure posting occurred on all charter boats, and the logistical and enforcement complexity of insuring vendors post the regulation. However, anglers could be made aware of the regulation by posting the information on their fishing license and catch/harvest cards. Point (b) would likely be most effective in areas with multiple charter vessel operators from different lodges in close proximity, or clients with knowledge of the regulation to pressure the guide to comply. However, many clients harvesting more than five fish would be operating from remote lodges where few, if any, neighboring lodges exist. Thus, multi-day charters and isolated lodges violating the annual limit would likely be unaffected by peer pressure unless clients were aware of the regulation and NOAA OLE was able to detect violations.

Studies suggest that tourists (e.g., charter clients) expect their guides (e.g., charter guides) to be a source of accurate and honest information; especially in situations where information is complex or often changes (e.g., the regulatory environment; Gasper *et al.* 2006; Cohen 1985). In this regard, guides are able to control some of the information clients receive about their surroundings, including information that is specific to the guide's expertise (i.e., regulatory information; Cheong and Miller 2000). Because clients often receive regulatory information from charter operators, they are likely to pressure operators only if they have prior knowledge of the regulation or the operator has communicated the regulation to clients.

The ability of a client to receive regulatory information is further limited if they are staying at a remote lodge. Because clients receive most services from a lodge (including the purchase of their sport fishing license), regulatory information from outside the lodge is limited to those sources which the client has independently sought (e.g., Internet or regulation booklet), or indirect sources (e.g., community store or bar). Thus, the ability of clients to place regulatory pressure on a guide is limited by their knowledge of the regulation.

As a result, any program to institute the annual limit must meet the previously mentioned enforcement needs. In particular, ***the proposed 5 - fish annual limit would not be enforceable without the ability to verify the number of halibut harvested by clients fishing on multiple charter vessels.*** This is necessary because clients may fish from several vessels during a fishing season and that charter operators may be held responsible for an angler violation (Section 1.5). To ensure recordkeeping and reporting requirements are adequate for enforcement, NOAA OLE would need an on-board record of angler harvest and an angler specific record of harvest. These recordkeeping tools provide legal documentation about the number of halibut harvested during a guided fishing trip and the number of halibut previously harvested by a charter angler.

Type of information required by NOAA OLE

To enforce the annual limit, NOAA OLE would need harvest information for each charter angler, angler contact information, charter guide contact information, and vessel identification information. NOAA OLE would need to know the number of halibut harvested for each charter angler and each charter trip taken by an angler. This would require NOAA OLE to determine the halibut harvested for each angler,

[7] This assumes that economic incentives to violate the 5-fish annual limit are minimal. In some situations, compliance may be more costly than the penalty associated with violation, or the level of risk for being caught is low.

the charter operator (guide and business), the number of halibut harvested by each angler, angler contact information, port of landing, and vessel identification number (USCG or Department of Motor Vehicle Registration).

1.5 Charter operator responsibilities

Charter operators (guide) may be held responsible by NOAA OLE if charter anglers exceed their annual halibut limit. Enforcement action may be taken on a charter guide and charter angler if the annual limit is exceeded. The nature of the violation and the final regulations would determine how the enforcement action is carried out. The Halibut Act provides for enforcement action on a charter guide at 773(i)(c) who has charter anglers in violation of the halibut regulations:

> *If any officer authorized to enforce this subchapter (as provided for in this section) finds that a fishing vessel is operating or has been operated in the commission of an act prohibited by section 773e of this title, such officer may, in accordance with regulations issued jointly by the Secretary and the Secretary of the department in which the Coast Guard is operating, issue a citation to the owner or operator of such vessel...*

The International Halibut Commission (IPHC) regulations specify the regulation at Section 25(18):

> *The operator of a charter vessel shall be liable for any violations of these regulations committed by a passenger aboard said vessel.*

The definition of an operator is specific at Section 3(1)(m)

> *"Operator", with respect to any vessel, means the owner and/or master or other individual on board and in charge of that vessel.*

In addition to the IPHC regulations, the USCG also has the authority to revoke operating licenses if a charter operator fails to comply with all Federal regulations. Thus, violation of the GHL regulation would constitute a violation of Federal regulation, which may result in enforcement action by the USCG.

NOAA OLE would have the authority to take enforcement action on the charter angler or operator depending on the infraction. Charter operators would be solely responsible for charter logbook recordkeeping and reporting requirements, as well as requirements associated with the distribution of angler catch cards. The situation associated with the violation would determine the action taken by NOAA OLE. A detailed discussion about recordkeeping and reporting tools is found in Section 2.0.

2.0 Implementation options

Several approaches may be taken to implement the Council's action and satisfy NOAA OLE requirements. The following two approaches are discussed here in detail: (1) utilization of the State charter logbook and angler licensing information; and (2) implementation of a Federal halibut logbook and angler catch card using either hard copy or electronic reporting methods. In summary the alternatives presented in this paper are as follows:

- **Federal use of the State reporting tools.** NMFS and NOAA OLE would use the State charter logbook and angler licensing system to meet enforcement requirements.

- **Federal recordkeeping and reporting tools:** NMFS and NOAA OLE would develop and implement a Federal logbook and angler catch record to meet enforcement requirements. Two methods could be used to implement a Federal logbook:

    - **Written logbook:** A written logbook similar to the current ADF&G charter logbook would be submitted to NMFS by charter operators. Anglers would use a written catch record.

    - **Electronic logbook.** Logbook information would be electronically reported to NMFS and NOAA OLE. Anglers would use a written angler catch record.

2.1 Federal use of State recordkeeping and reporting tools

2.1.1 Description of the current program

Saltwater charter logbook

In order to operate a saltwater charter vessel in Alaska, guides and business owners are required by law (AS 16.40) to register as a business and/or guide with the ADF&G. Sport fishing guides are required by statute (AS 16.40.260) to obtain a guiding license from ADF&G before guiding activities begin. The guide license requires a guide to report their general contact information, Alaska sport fishing license number, first aid certification, and USCG license number. Businesses are required under AS 16.40.260 general contact information to ADF&G, their current State occupational business license number, and evidence of liability insurance. The business must also obtain a charter logbook for each vessel that provides charter guide services.

Guides and businesses license with the State using one of three methods: (1) they can obtain the forms online and mail it to the State. The State then mails back the signed license documents, logbook and vessel identification sticker to the applicant; (2) they may license in person at any ADF&G office. When obtaining a license at an ADF&G office, the applicants (or designated agent) obtain the logbooks, signed registration information, and vessel identification stickers in person; and (3) they may fax license information to the State and obtain the documents, vessel identification sticker, and signed license information through the mail or ADF&G office. Guides receive a temporary license until a permanent wallet sized card is issued by the State. The SCVL is issued to the business and is unique to each vessel operated by the business.

Under the authority of AS 16.40.280 and 5 AAC 75.076, ADF&G has utilized the Saltwater Sport Fishing Charter Vessel Logbook (SCVL) since 1998 to assess charter fishing activities. In general, the SCVL collects information about the number of chartered anglers on board, number of fish harvested and caught, date of landing, location of fishing effort, amount of fishing effort, vessel ownership (business under which the vessel is registered), and operator. Under the 2006 SCVL program, logbooks are vessel specific and are issued to the sport fishing business (or designated representative), which in some situations may not be the vessel operator. A business that has registered with the ADF&G and has obtained a State general business license is considered a sport fishing business.

The 2006 SCVL requires vessel operators to enter trip and catch information after the completion of each sport fishing trip[8]. For charter fishing activity occurring between April 1, 2006, and October 1, 2006, charter operators are required to return completed logbook pages to ADF&G on a weekly schedule provided with the SCVL. Fishing activity that occurs prior to April 1, 2006, or after October 1, 2006, is to be received by ADF&G or postmarked before January, 15, 2007. Mandatory reporting of catch and effort information is required for all species of salmon, lingcod, pelagic rockfish, yelloweye rockfish, non-pelagic rockfish, salmon shark, and halibut caught in Alaskan waters.

The SCVL has been used by the State to collect information on halibut catch for all years except 2002 through 2005. Versions of the SCVL prior to 2006 did not differentiate catch for each angler. In 2006, the State modified the SCVL to account for an individual angler's catch and harvest information, including halibut. For each trip a charter angler takes in 2006, the SCVL links halibut catch to a specific charter angler by using a serialized number associated with the angler's sport fishing license or PID. Thus, the current SCVL logbook provides information about a charter angler's catch, fishing effort, location of catch and port of offload, contact information for the vessel owner and operator who guided the charter angler, the charter business to which the vessel is registered, type of trip (e.g., multi or single day), and date fishing occurred. However, halibut catch data cannot be tracked to individual anglers under 16 years of age because they do not need to obtain a sport fishing license and do not have a unique identifying number. These anglers are denoted as "youth anglers" in the charter logbook.

Sport fishing license

The ADF&G sport fishing license can be used to link a charter angler's catch information with personal contact information. Before sport fishing, all anglers 16 and over and less than 60 years of age are required to obtain a sport fishing license at an ADF&G office, online, or through a license vendor. The sport fishing license requires anglers to report their physical and mailing address, drivers license number, sex, and personal identifying features (i.e., height, hair color, weight, and eye color). This information is used by enforcement when issuing a citation. Space is provided on the back of the fishing license to report the number of fish with an annual limit harvested.

Anglers may obtain a permanent identification card (PID) or Disabled Veteran License (DVL) in lieu of an annual sport fishing license. Anglers qualifying for a PID must be Alaska residents 60 years of age or older. Once issued, the PID or DVL is valid for the life of the angler and the card is unique to each angler (as identified by a serialized number). To qualify for a DVL, an angler must be an Alaska resident and veteran with 50 percent or more disability. Anglers with a PID, DVL, or under the age of 16 are required by regulation to obtain a harvest card from the ADF&G if they harvest any fish species with an annual limit. The harvest card requires anglers with a PID or DVL to record their license number and have their card on person while fishing. Youth anglers are only required to record their name and age on the harvest card.

2.1.2 Federal use of the State logbooks and angler licenses

Information needs

As discussed in Section 1.3, enforcement of the annual limit requires documentation of halibut harvested for individual anglers fishing on multiple charter vessels. The information provided in the 2006 SCVL

[8] SCVL defines a trip as an outing with one group of clients. For multiple day trips, the logbook is to be completed after each day fished. State regulations require charter guides to complete the logbook prior to offloading passengers or fish.

and angler sport fishing licensing requirements would meet NOAA OLE information requirements. However, to better meet enforcement needs, the logbook, sport fishing license, and State issued catch card could be modified to allow charter operators and anglers to record the harvest of halibut prior to the most current fishing trip. To accommodate this information, the SVCL would require charter operators to enter historical halibut harvest for each angler in the logbook. In addition, State license regulations would need to be modified to require anglers or the charter guide to record harvested halibut on the back of their sport fishing license or the angler harvest card at the time when harvesting a halibut.

Recording a charter angler's historical harvest in the SVCL prior to the start of fishing activities would allow documentation of an angler's catch prior to harvesting halibut. This documentation would allow the charter operator to document the number of halibut indicated on a client's catch card prior to the start of a trip. If a client misreported the number of halibut on his or catch card, recording of the client's historical harvest would provide documentation that the charter operator was not aware that the client misreported halibut on the catch card (assuming the charter operator didn't misreport the number in logbook). Without documentation in the logbook about a charter angler's prior harvest as indicated on the catch card, a charter operator may be cited (as allowed in the Halibut Act) for a charter angler harvesting more than their annual limit because the angler misreported the number of halibut harvested.

The discrepancy between the number of halibut reported and the number of fish actually harvested by the angler would also be demonstrated during a post season audit of logbook information. In this situation, a charter angler may have caught an annual limit of halibut on a previous trip. The charter operator with anglers exceeding the limit could be cited for the violation. Even with charter operator recording the number of halibut previously harvested, there is still opportunity for charter anglers to misreport halibut on the back of the angler license. One method to reduce this misreporting by charter anglers would be to require that charter operators record the number of halibut harvested on the back of an angler's license or catch card. If misreporting occurred, post season auditing may discover on which vessel the misreporting occurred and the charter operator could be cited for misreporting and potentially a violation of the annual limit. However, requiring the charter operator record information on the back of the angler license at the time of landing could be burdensome given all the other activities occurring on the vessel.

Although State recordkeeping and reporting requirements meet Federal information needs, current State statute and administration policy prevents NOAA OLE from accessing SCVL or angler license information. Federal access to these sources of information would require the following regulatory and administrative changes:

(1) **The State of Alaska legislature would need to amend the State confidentiality statute to allow NOAA OLE and NMFS access to confidential angler and operator information**. Without this information, NOAA OLE cannot seize angler license information and logbooks for inspection and evidence, enter logbook and license data in Federal court, or perform post season audits of data to pursue violators (Table 1). NMFS would also need access to angler and charter operator registration and logbook information to provide the necessary program support (e.g., database management). A memorandum of understanding between the State, NOAA OLE, and NMFS would also likely be needed to allow data sharing.

(2) **NOAA OLE would need to be deputized by the State of Alaska Commission of Public Safety**. NOAA OLE needs the authority to inspect logbooks, angler licenses, or catch cards (Table 1). Without this authority, anglers and charter operators are not obligated to show their license information to a Federal enforcement officer.

Table 1. Summary of NOAA OLE enforcement actions and their applicable State laws.

Enforcement Method	Enforcement Action	Current Federal Authority	State law prohibiting Enforcement Action
At-sea and dockside inspection	Inspect State sport fishing license, or Permanent Identification Card	None	State confidentiality/ NOAA OLE not deputized by State
	Inspect State charter logbooks	None	State confidentiality/ NOAA OLE not deputized by State
	Seize license or logbook as evidence	None	State confidentiality
	Enter licenses or logbooks into Federal court	None	State confidentiality
End of season audit of logbooks	Review logbooks (electronic databases) maintained by the State	None	State confidentiality

If the previously discussed legal and administrative issues are resolved, NMFS and NOAA OLE could use the information from the SCVL, guide and business registration, and angler license database to identify and pursue cases. Once a violation was identified, NOAA OLE would use the serialized angler license number to obtain information (including PID and DVL information) about the individual angler from the ADF&G license database, and the logbook to identify the charter operator and vessel (including the registered business). Anglers and charter operators would be contacted about their violation, and enforcement would take appropriate action.

Federal regulations implementing the annual limit would describe the type of information the charter operator and client are required to record. The State logbook and angler sport fishing license would be used to fulfill these information needs as outlined in Federal regulation. However, Federal regulations cannot just refer to the completion of the State logbook and angler license as fulfilling Federal reporting requirements. Regulations must describe the type of information to be recorded in the State logbook. For example, in the commercial fishery, regulations at 50 CFR 697.5 describe information that is to be reported for the commercial fishery.

The State may change its logbook and angler license requirements at any point in time, including a change to the information requirements for charter operators and anglers. These changes may result in State reporting tools not meeting the information requirements for enforcing the annual limit. Moreover, changes to State law may also prevent NOAA OLE from accessing information essential to enforcement or change the authorities granted to NOAA OLE to enforce the annual limit. In either situation, NOAA OLE would not be able to enforce the annual limit using State reporting tools and a Federal logbook program would be necessary.

Data retrieval and timing

Angler and charter information is currently received by two ADF&G sections: the Research and Technical Services (RTS) section receives charter operator and business registration and logbooks; and ADF&G Administration Services (Licensing) receives angler licenses. The time associated with transcribing this information into electronic format is specific to each reporting tool:

- ***Sport fishing license.*** The ADF&G licensing section issues and receives angler licenses from vendors, online purchases, and anglers obtaining a license at an ADF&G office. Generally, licenses sold to vendors take the longest to process; resulting in at least a two to three month delay before they are electronically available. There are several reasons for this delay: (1) vendors are required to send carbon copies along with the license fees to ADF&G within two weeks after the last day of a month. As a result, an angler's license purchased at the beginning of the month will not be received by Licensing until the middle of the following month; (2) mailing of the licenses generally requires two days to a week before they are received by ADF&G; (3) ADF&G must process the license fees and enter the angler information into a database. This process generally requires no less than two months and may take longer during the summer when a greater number of anglers are purchasing licenses and hunting season begins in the fall;[9] and (4) vendors do not always submit their licenses to ADF&G as required by regulation. This may increase the amount of time beyond the estimated two to three months when an angler's information is available electronically.

- ***Charter logbook information.*** Charter operators currently send hard copies of logbook information to the RTS division on a weekly basis for a technician to enter and verify. Periodic transmission of the data would result in a time delay between when the data were reported, transcribed into the ADF&G database, verified by ADF&G, and electronically packaged and transmitted to NMFS. Because of this time delay, NOAA OLE would likely not receive logbook data sooner than two to three months after the end of the charter fishing season (September). This is likely not a problem because NOAA would need the complete charter season's of data to run a comprehensive audit of angler harvest.

Construction and maintenance of a Federal database would be required to store and easily access angler and charter logbook information from each ADF&G section. Two data retrieval methods could be used: (1) periodic transmission of data from the State to NMFS, or (2) "real time" access to the State database. Under either option, the information would be subject to Federal and State confidentiality requirements, both of which would prevent public access to individual charter operator or angler information.

Periodic transfer of data from ADF&G to NMFS would be the simpler of the two options. Periodic transfer of information would require ADF&G to package the information and send it to NMFS via an FTP site or through a simple data storage device such as a CD or jump drive. The data would likely be sent annually after the end of the charter fishing season. This information could then be transferred to a secure NMFS database where select NOAA OLE and NMFS staff could access it for enforcement purposes.

Real time access to angler licensing and logbook data would reduce the amount of time between reporting and data availability. The advantage to the real time data is that NOAA OLE could have access to the logbook and angler information as it is entered and verified in the ADF&G database. However, information would also not likely not be electronically available until the charter fishing season was over because of the time required by ADF&G personnel to transcribe and verify the logbook, and enter angler license, charter operator, and business data. Real time data access would eliminate the time required by ADF&G to package the charter data and the delay between when data are electronically available to ADF&G and when they are available for use by NMFS and NOAA OLE. This delay is likely small and thus reduces the need for real time access.

The complexity of the database would be dependent on the data retrieval method used. The database would need to accommodate angler contact license information (sport fishing license, PID and DVL),

[9] Personal communication 9/5/2006; ADF&G licensing section.

charter operator and business registration information, and logbook information. A periodic data transfer would require a Federal database and workstation to be created, with an annual data update from the State. Real time access would require ADF&G to develop a method to access and query State information. A Federal database would not be needed for real time access; however, close coordination with the State would be required to insure the information obtained from the State database was adequate to meet NOAA OLE needs, and address any technical issues. Creation of a real time access database would likely impose a large cost on ADF&G to develop the necessary web interface and query structure to meet Federal needs.

For specific cases, NOAA OLE could obtain scanned logbook information within a month of when a charter angler took a charter trip. Prior to entering logbook information, the State scans and files all logbook forms. While these scanned images cannot be used to audit logbook information, they can be used to follow up on specific cases. To access these data, NOAA OLE would need to request specific logbook pages, angler information, and charter operator information from the State. The recall of specific logbook forms would require NOAA OLE to know the charter vessel and the approximate date the infraction occurred.

In conclusion, real time access does not provide a large benefit over periodic data transfers. The additional complexity of real time access would require substantial State programmer time and likely Federal programmer involvement to make sure the program meets Federal needs. As a result, a periodic data transfer is the simplest method and meets NOAA OLE enforcement needs.

2.2 Implement a Federal charter logbook and angler catch card

A Federal logbook and angler catch card program could be implemented using written hard copy or electronic media. Each type of media has benefits and tradeoffs. In general, the quick transmission of data facilitated by electronic media allows easy inseason access by NOAA OLE and decreased administrative costs by reducing the hours required to transcribe data. However, compared with written media, electronic reporting requires the agency to develop technically complex reporting systems (i.e., advanced databases) and relies on users to utilize technology for reporting (i.e., phone and Internet portals). The advantage to written methods is that they are familiar to the charter fishery and provide onboard documentation of angler catch. The two reporting methods are discussed in detail below.

2.2.1 Written media

- Under this option, NMFS would issue a logbook to charter operators and an angler catch card to charter anglers. The charter logbook would be serially linked to the angler catch card to allow a comparison of individual angler catch across several charter vessels. This is necessary to allow an end of season audit in which anglers who caught more than five fish would be "flagged" for further enforcement action. This option would require the following implementation tools:

- ***Angler catch card:*** Charter anglers would be required to obtain a Federal catch card to record halibut harvest. At a minimum, the catch card would record personal contact information for the angler, the date each halibut was harvested, and the vessel from which each halibut was harvested (USCG or State registration number).

- ***Method of distribution of the angler catch card to individual anglers:*** Charter anglers would be required to obtain an angler catch card before the harvest of their first halibut while on a charter fishing trip. Charter anglers in Alaska are a diverse group that may consist of residents, angler who came to Alaska on a fishing trip, or tourists who decided to take a fishing trip as part of an

overall vacation experience. For these reasons, these anglers are going to have limited ability to obtain a catch card in certain situations. For example, passengers off a cruise ship may not have ready access or knowledge about Internet websites to obtain a license (they did not come to Alaska to fish). Whereas, a resident angler, or angler who traveled to Alaska on a fishing vacation would likely have access to an Internet website to register for a catch card prior to their trip.

To best meet the needs of anglers, two distribution options are required for the angler catch card: online registration or through the charter operator at the time the trip is taken. Online registration would require an angler to log into a NMFS site, provide the necessary information, and print the angler permit or have it mailed. Distribution of an angler catch card at the start of a charter trip would require a charter operator (business or guide) to obtain the cards at a NMFS office, over the Internet, or through the mail. Charter operators would be required by regulation to distribute the angler catch cards if the charter angler has not obtained one from the Internet. Operators would be required to mail carbon copies of the catch card registration to NMFS on a weekly basis. Failure to mail the carbon copies would result in enforcement action.

Charter operators would be required to provide NMFS with contact and business information for the angler catch card. This information would be used to track operators who fail to meet recordkeeping and reporting requirement. Registration information recorded for the charter logbook could be used by a charter guide to obtain angler catch cards. However, businesses wanting to obtain the catch card would need to register separately either through a NMFS internet site, fax, or mail.

- ***Charter logbook:*** Charter guides would be required to record each charter angler's catch in a logbook. Information recorded in the logbook includes the unique angler catch card identification number, number of halibut previously harvested by a charter angler while charter fishing (as recorded on the angler catch card), and the number of halibut harvested on the current charter fishing trip. To maintain consistent reporting between State and Federal regulation, and allow dockside enforcement, charter operators would be required to record harvest and angler information before offloading fish or anglers.

- ***Distribution of the charter logbook to charter guide:*** Charter guides would be required to register for a logbook either through a NMFS website, fax, or at the NMFS Regional Office. After registering, charter operators would obtain a unique registration number and charter logbook from a NMFS office. An online registration system may be used to reduce the registration time burden on charter operators. Guides would be able to enter new or retrieve historical personnel information, electronically send that information to NMFS, and NMFS would mail the operator a logbook.

  Charter guides would be issued unique Federal logbooks that may be used on multiple vessels. This distribution method is different from the State logbook program in that the State requires the business owner responsible for the vessels to register for the logbook. The State logbook is thus unique to each vessel. The Federal logbook would be designed to respond to enforcement needs, which include adhering to the regulations promulgated in the Halibut Act (vessel operator liability for angler violations). Guides would be required to report in the logbook vessel information including the USCG and State of Alaska registration number, vessel name, business the guide is working under, and daily catch information.

- ***Data transcription*:** After logbooks and angler catch cards are received by NMFS, they would be processed, transcribed into an electronic database, and filed. NMFS personnel or contracted

experts would be needed to manually enter and verify data, recover missing records, and fix data discrepancies.

- ***Data access*:** A database interface that provides NMFS and NOAA OLE with easy access to angler and charter operator information would be required. This interface would allow quick and easy access to reported information and post season auditing. Post season auditing would reveal anglers who harvested more than five halibut, charter vessels who did not submit logbook pages, and errors in the data.

- ***Data security and disaster recovery*:** Security measures and a backup and recovery plan should be built into the database structure to insure database integrity. This approach may involve the use of multiple servers as well as incorporating firewall and security software into the data design.

- ***Web interface for charter operators*:** A web-based interface would allow charter operators to access personal information, and register for angler catch cards and logbooks. This interface would reduce administrative costs by allowing the charter operator to electronically enter registration information, rather than relying on NMFS personnel to transcribe hard copy information.

- ***Web interface for charter anglers*:** Anglers could obtain a halibut catch card through the Internet. Anglers providing information electronically would eliminate the need for agency staff to transcribe angler information or handle written hard copy information, and follow up on non-legible or incomplete information.

- ***NMFS coordination with ADF&G:*** Coordination between NMFS and ADF&G would be required to insure that conflicting reporting requirements are avoided and mitigated. Conflicting regulations may reduce the ability of charter operators to report information, or may encourage misreporting of information if an excessive burden is placed on the charter industry. For example, conflicting reporting periods, and time when logbook sheets are to be submitted to an agency may increase the burden on charter operators and reduce compliance.

Data Retrieval and Timing

To make logbook information available for enforcement purposes, NMFS staff would need to transcribe written charter logbook into an electronic database. Because the information requirements for the Federal logbook program are less than the State program, the amount of time to enter Federal data will likely be less. If logbook pages were submitted on a weekly basis, data transcription would likely take a maximum of three months to complete. This time delay could be reduced if additional NMFS staff were hired or logbooks were sampled using statistical methods (e.g., random or systematic). Completion of the registration information for businesses would require one to two months and would largely be completed before the end of the charter fishing season.

The Federal catch card would also need to be transcribed into electronic format. Currently, approximately three months are required for the State to receive and transcribe angler license information into electronic format. The Federal catch card would like require 2 months to transcribe because of the time delay before receiving license information and the similarities to the angler contact information required by the State license.

2.2.2 Electronic reporting

Electronic reporting of charter logbook information could be used in conjunction with the ADF&G angler license or Federal catch card and ADF&G logbook. Electronic reporting has an advantage over paper reporting because it may make data available sooner for enforcement purposes, provides automation of some verification processes, and eliminates the need to transcribe hard copy information into electronic form. Electronic reporting would eliminate the delay caused by mailing and transcribing logbook information, but would still require hard copy information to be mailed to NMFS for verification and enforcement purposes.

Logbook information for each individual angler could be electronically reported to NMFS by linking the serialized number from the angler sport fishing license, PID, DVL, or Federal catch card with harvest information in the logbook. This information could be reported by the charter operator using an Internet website or by telephone. Because reporting would be required at the dock before fish or anglers are offloaded, charter operators would generally not have internet access at the dock or on their vessel. Thus, electronic information would need to be communicated via telephone.

A telephone Interactive Voice Reponses (IVR) system for the proposed charter halibut IFQ program was evaluated in 2005 (Wostmann and Associates 2005). An IVR system allows data reporting by telephone using specialized software and hardware that interprets speech and/or touchtone prompts, synthesizes speech or replays recorded prompts, and records information to a database, accessed through a workstation. The IVR system for the annual limit would be very similar to the charter halibut IFQ program in that it would need to account for all halibut caught by charter anglers in Area 2C.

Under an electronic reporting program, charter operators (guides) would report angler halibut harvest by telephone prior to offloading anglers or fish. Charter operators would call a toll free number which connects to an IVR system in the NMFS Regional Office. The IVR system would prompt charter operators to provide their registration number linked with a charter operator's personal information. The operator would then be prompted to enter the following trip information: USCG (if available) and State DMV vessel number; serialized angler number from a sport fishing license, PID, or DVL; number of halibut harvested; port of landing; date harvested; and the anglers' previous halibut harvests as recorded on their catch card or angler license. As the program matures and technical issues are resolved, information reporting requirements may change. These changes would likely improve the performance of the system and ease of use.

Electronic reporting would not preclude charter operators from completing a written Federal logbook for enforcement purposes. Dockside enforcement would require NOAA OLE to have logbook information available immediately after charter anglers disembark from their fishing trip or fish are offloaded. Information reported electronically may not be immediately available for NOAA OLE because of the time required to verify the data and potential technical issues (i.e., cell phone service). These issues make it difficult for NOAA OLE to verify data at the dock and cite the angler and/or charter operator for an infraction, including failures to follow recordkeeping and reporting requirements. Enforcement efforts could be further complicated if charter operators experience technical issues associated with electronic systems, including telephone coverage problems.

Because electronic reporting would also require a written logbook, the previously discussed requirements in Section 2.2.1 would apply. These issues include a distribution method of the written charter logbook and angler catch card; database and web requirements; data security and disaster measures; and NMFS coordination with ADF&G. Electronic reporting would eliminate the need to transcribe most logbook information. However, data verification processes would still be required and data transcription would be

needed for operators in areas with limited cell phone service. If the electronic system proves to be being able to provide the information necessary for enforcement, the written logbooks would be discontinued. However, given the complexity of the sport fishery (i.e., large number of vessels and charter anglers in remote areas) and that IVR systems are new to NMFS, it is unknown if the written logbook could be eliminated.

Electronic reporting of the Federal angler catch card is not considered in this analysis because of the time required for charter operators to enter angler data through an IVR system, electronic difficulties with entering a large amount of data, enforcement requirement for a hard copy angler catch license, and the large amount of time required to enter each anglers personal contact information.

3.0 Cost estimates for recordkeeping programs

All proposed options would require four additional enforcement officers. These enforcement officers would check for failures to record retained halibut, incomplete information in the logbook, inaccurate information in the logbook, failure to record a halibut on an angler catch card or State fishing license, and violation of the annual limit. These enforcement officers would be based in Juneau, Sitka, and Ketchikan. **The expected cost for four additional enforcement officers is approximately $600,000, annually.**

3.1 Federal use of State charter logbook and angler license

Federal use of the State logbook and angler license would require additional staff time. Federal staff would be required to coordinate with ADF&G and respond to agency needs. A part time NMFS or NOAA OLE staff person would be required to process and query operator, business, and angler information. This person would also provide assistance to NOAA OLE with the collection of evidence, administrative correspondence, preparation of cases, and maintaining the database by working closely with NMFS programmers and ADF&G staff as needed. The expected annual cost for a GS- 9 part time NMFS staff person is approximately $50,000 (Table 2).

Programmer time would also be required to build and maintain a Federal database. Periodic data transfers would be the simplest database format, with programmer time required to construct and maintain the Federal database and workstation structure. Construction and maintenance of this database would likely be minimal, requiring one to two weeks of programmer time annually. The estimated cost for NMFS programmer time is $2,500 to $5,000, annually. Cost associated with “real time” access to the ADF&G database is unknown. These costs would largely depend on how efficiently the ADF&G database meshes with the Federal database and if a simple secure internet portal could be used to access ADF&G data. ADF&G would absorb much of the costs with real time access.

Federal use of State charter and angler recordkeeping and reporting tools would require ADF&G administrative support. To meet Federal data needs, ADF&G would need to provide adequate staff time to query charter operator and angler information, package this information, and send it to NMFS annually. ADF&G staff time would also be required to coordinate with the NMFS and NOAA OLE to develop a transfer methodology and provide ongoing support to NMFS staff. Moreover, additional ADF&G staff time may be required to respond to NOAA OLE request for scanned logbook pages and angler license information before the information is transferred to a NMFS database. ADF&G would need to respond to requests for scanned logbook pages on a case by case basis.

A secure Internet portal may reduce NMFS programmer time. An Internet portal would allow designated NMFS and NOAA OLE employees to logon to an ADF&G site or sites to access charter logbook and

angler data. This option would result in ADF&G incurring programmer costs associated with implementing the portal and necessary query structure. The extent of these costs is largely unknown because the data query and programming structure have yet to be determined. The Internet portal would also likely require a high level of coordination between the agencies and would be more programmer intensive than a periodic data transfer.

Table 2. Summary of cost estimates for implementing the annual limit using existing State resources.

Position	Time Requirements	Cost	Purpose
GS 9 NMFS staff	Part time	$50,000	Coordinate Federal data needs and respond to public
Programmer	One to two weeks	$2,250 - 5,000	Develop and maintain data base
Enforcement	Four officers	$600,000	Enforcement requirements for the limit
Total Federal Cost		**$652,500 - 655,000**	
ADF&G Costs	Additional administrative time	Unknown	

3.2 Federal charter logbook and angler catch card

3.2.1 Written media

State staffing levels can be used as benchmark from which Federal staffing levels for the logbook and angler catch card programs can be estimated. Currently, ADF&G employs a minimum of three full time technicians to enter and scan logbook data, and several[10] technicians to enter angler license information.

Additional NMFS staff would be required to administer the catch accounting program. Staff resources are currently fully allocated to existing management programs. Implementation of the GHL catch accounting program would require staff resources to be increased or redirected from current management programs. It is unlikely that sufficient staff resources could be redirected from current activities without severely hindering NMFS' ability to implement current and future management programs.

The State logbook program currently collects effort information in addition to angler-specific catch information for several species. The Federal program would only require angler-specific halibut harvest information and would thus require less data entry than the State program. Similarly, the scope of the Federal catch card would be much smaller than the ADF&G sport fishing license because Federal licenses would only be issued to anglers fishing for halibut from a charter vessel and different license choices would not be available. Given these staffing requirements, the GHL catch accounting program would require one full time GS - 9 NMFS position at $100,000 annually and one full time GS - 7 position at $75,000 annually to distribute logbook and angler catch cards, collect data, enter logbook and angler catch card data into a database, respond to public inquiries, query the database for potential violations, coordinate with programmers, and provide support to NOAA OLE as needed (Table 3).

[10]. Because of the wide rage of data entry responsibilities for ADF&G licensing technicians, an accurate estimate of the technician time for only angler licenses was not available.

Programmers would be needed for two phases of the GHL program: initial start up and annual maintenance. The initial start up of the program would require approximately one month of programmer time to design and implement the databases, design a web interface for the distribution of the angler catch card to the public, design a database workspace for NOAA OLE and NMFS, create multiple data storage areas and security arrangement, and provide technical assistance. The estimated programmer cost for initial startup is approximately $10,000 if a NOAA Fisheries employee is used and $20,000 if the project is contracted to a consulting firm (Table 3).

The database and web interface would also require ongoing programmer time for maintenance and support. After the initial set up, a programmer will likely be needed to perform the following functions:

- Guarantee system functionality (e.g., reboot servers, troubleshoot problems, restore from backup servers, reconfigure settings);
- Install hardware and system upgrades; and
- Develop, test, and employ database modifications based on agency staff feedback.

The frequency and number of these services would likely diminish as the program aged and problems were resolved. As a result, costs will decrease as the program matures and stabilizes (Wostman and Associates 2005). Given these variables, it would likely require approximately two weeks of annual programmer time to meet programmatic needs. The annual cost (minus the first year) would be approximately $5,000 if a NOAA programmer is used or $10,000 if the work is contracted (Table 3).

Other costs

Implementing the program would accrue costs associated with producing the angler catch card and charter logbook, and software costs associated with maintaining the database. A detailed explanation of these costs is provided below:

- *Charter logbook production.* Based on historical use, approximately 600 to 1,500 charter operators will be required to have a logbook in Area 2C. An accurate estimate for printing costs is difficult to obtain because the design of the Federal logbook has not been determined. However, because the Federal logbook requires less information than the State logbook, it would likely be smaller and less expensive. The estimated cost for the Federal logbook is between $2,000 and $5,000 if they are half the cost of the State logbook and between 700[11] and 1,500[12] logbooks are needed (based on registered charter vessels) (Table 3). The upper end may be limited by future moratorium action.

- *Angler catch card production.* In 2004, approximately 51 percent (~34,000) of the 66,000 anglers who fished from a charter vessel in Area 2C harvested one or more halibut (Figure 1). The number of anglers who targeted halibut without any harvest is unknown. We assumed that a Federal angler catch card would be very similar to the current ADF&G fishing license which

[11] This estimates assumes some logbooks may be destroyed or lost and some inactive charter anglers may obtain a logbook.

[12] The estimate assumes that the number of active charter vessels will increase from the 624 reported in 2004 (NPFMC 2006) that some logbooks may be lost or destroyed, charter operators may require multiple logbooks, and non active charter boats may obtain a logbook. The cost estimate also assumes Federal charter logbook will cost about 3 dollars per logbook (roughly half of the cost for a state logbook). The amount of information required for the Federal logbook will be much less, thus requiring a much smaller logbook. If the cost of the logbook is equal to the state, the cost estimate increases to between $5,000 and $10,000. The design of the logbook is unknown at this time and for this reason the exact cost is difficult to estimate.

costs approximately $1.00 for a booklet of 50 licenses[13]. Assuming between 50,000 and 66,000 licenses are needed, the annual estimated cost is between $1,000 and $1,400 (Table 3).

- *Software and hardware.* Software and hardware would be required to provide the structure and necessary backup and security protection for the database. Because details associated with the design of the database have not been finalized, these costs are unknown.

[13] Estimate based on the cost of 2006 ADF&G sport fishing license as provided by the ADF&G licensing.

Table 3. Summary of cost estimates if the Federal logbook and angler catch card using written media is implemented.

Position	Position classification	Cost	Purpose
One GS - 9 NMFS management staff	Full time	$100,000	Distribute logbooks and angler catch cards; collect data; transcribe data; respond to public inquiry; coordinate with programmers and NOAA OLE
One GS – 7 NMFS staff	Full time	$75,000	
NMFS or contracted programmer	One month	$10,000 if NMFS employee used; $20,000 if contracted	Initial design and setup of database, workstation, and web interface
	Two weeks	$5,000 if NMFS employee used; $10,000 if contracted	Ongoing maintenance and modification of database
Four enforcement officers	Full time	$600,000	Enforcement requirements for the annual limit
Other Costs	NA	$3,400 to $6,000 and unknown software cost	Angler catch card and charter logbook production, hardware and software purchase
Total			
Initial set up (first year)		$788,400 – $801,000+	
Annual costs		$783,400 – $791,000	

3.2.2 Electronic reporting

Electronic data reporting requires the development of a large technical infrastructure, including the purchase of hardware and software, training of staff, and technical support for the charter industry. Readers are directed to the IVR feasibility study by Wostmann and Associates (2005) for the charter halibut IFQ program. This discussion paper will provide a brief overview of costs associated with the program.

The cost estimates for the electronic reporting are derived from Wostmann and Associates (2005), and are subject to the conditions indicated in their discussion paper. These costs were estimates for an IFQ program, not the proposed annual limit. However, the author believes the IFQ cost estimates may be transferred to the proposed annual limit. If electronic reporting is instituted for the annual limit, NMFS would need to obtain formal bids, which may vary from the provided estimates.

The report provided by Wostmann and Associates (2005) outlined three options for electronic reporting:

- **Option 1** - Develop and support the IVR system using in-house NMFS resources, including technical support to charter operators through the Information Resource Office (IRO) at NMFS.

- **Option 2** - Hardware and phone lines would be purchased, configured, and hosted by NMFS. NMFS would hire a contractor to design and develop the IVR system as well as train NMFS

developers and support staff to maintain the system. NMFS would provide technical support for charter operators through the IRO.

- **Option 3** – Contract out the development, hosting, and technical support for the system to an IVR hosting service.

The costs associated with each option can be broken down into several elements: phone service costs, IVR hardware and software platform costs, IVR development software, development, maintenance and support, and hosting (Table 4). The details for these options are discussed in the charter halibut IFQ feasibility study (Wostmann and Associates 2005). In brief, the attributes associated for each element are as follows:

- **Phone costs** - The IVR system would require an estimated eight analog or digital phone lines. In addition to an installation fee, the phone line service would have an annual fee and 6 month "vacation" fee when the lines are not in use (winter months). A third of the of the annual fee is associated with using a T1 line for the digital phone service. This cost could be reduced if analog lines were used.

- **IVR software and hardware** - This cost estimate includes the use of multiple servers and the voice handling and prompt software to operate the phone system.

- **Development costs** - These costs include training time for NOAA Fisheries staff, development of the systems, documentation of the system parameters, and testing and tuning of the system.

- **Maintenance and support** - Ongoing help desk and administration staff would be needed to perform system maintenance (e.g., generate and review performance reports), install software upgrades, respond to calls from charter operators, and insure the system is operating properly.

- **Hosting fees** - Outsourcing of IVR services provides complete hosting of the IVR system, including phone service, software and hardware, and maintenance and support. The advantage to IVR hosting is that a hosting firm can provide the necessary technical experience and infrastructure to insure high system quality.

Table 4. Summary of IVR costs as estimated by Wostmann and Associates (2005). Initial costs represent the total costs for the first year of implementation.

		Phone service ($)	IVR software and hardware	Initial development	Maintenance and support	Hosting Fees
Option 1	Initial Cost	$6,270	$10,000 - $20,000	3 – 6 months NMFS programmer time ($30,000 – $60,000)	Minimum one part time NMFS staff person ($50,000) Programmer time highly variable: $5,000 - $30,000	$0
	Annual Cost	$4,500	Variable	NA	Minimum 1 part time NMFS staff person ($50,000) Programmer time highly variable: $5,000 - $30,000	$0
Option 2	Initial Cost	$6,270	$10,000 - $20,000	Contracted: $54,000 - $97,000	Minimum 1 part time NMFS staff person ($50,000) Programmer time highly variable: $5,000 - $30,000	$0
	Annual Cost	$4,500		NA	Minimum 1 part time NMFS staff person ($50,000) Programmer time highly variable $5,000 – $30,000	$0
Option 3	Initial Cost	$0	$0	Contracted: $51,000 - $100,000 NMFS staff 1-2 months $8,000 – $16,000	$0	$108,075
	Annual Cost	$0	$0	NA	$0	$108,075

Wostmann and Associates recommended that NMFS pursue Option 2 to implement the IVR system for the charter halibut IFQ program. In summary, the recommendation by Wostmann and Associates was based primarily on cost:

> *Although the system may be less expensive to get online initially, through a service provider, the ongoing service fees are significant and within three years will likely exceed the overall cost of developing and maintaining the system in house. The uncertainty that an outsourced solution will receive funding in future years is another consideration… NMFS will have more flexibility to*

modify and enhance the system without being dependent on contracted resources from the solution provider to implement changes in the future.

As discussed in Section 2.2.2, NOAA OLE requires written logbooks in addition to the electronic reporting. Thus, in addition to electronic reporting costs under Option 2, the costs for written media would apply. A reduction in administration time associated with transcribing logbook data would occur under the electronic reporting system. However, administrative staff would still be required to transcribe angler catch card data unless the State fishing license database was used. NMFS estimates that one GS - 9 ($100,000) and one part time GS - 7 ($37,500) employee could administer the electronic and written data systems. These administrative costs would be in addition to enforcement costs, and costs associated with producing and distributing the charter logbook and angler catch card. Use of the ADF&G angler license would eliminate the angler catch card and associated staff time required to transcribe catch card information, and would thus eliminate the need to hire a part time GS-7 employee.

Providing an accurate estimate of the cost associated with the electronic reporting is difficult because the amount of programmer time is unknown. NMFS does not have experience with telephone IVR systems, but does have experience administering electronic reporting systems for the IFQ fishery and electronic reporting systems administered between the ADF&G, Pacific States Marine Commission, and NMFS. Based on this experience, electronic reporting of the annual limit would likely require a large amount of programmer time that may range from one to six months depending on the scope of the final system.

The annual cost for electronic reporting (with a written logbook and angler license) under Option 2 is less than the written option due to the elimination of hiring a full time GS-7 employee. The annual cost of the electronic reporting method is between $749,000 and $778,000 without consideration of additional programmer time. However, the initial cost of an electronic reporting system is much higher than the written method because of the technical requirements and the need purchase hardware and software. The estimated initial cost for electronic reporting is between $816,000 and $891,000. This cost may vary substantially depending on the amount of NMFS programmer time required to maintain and modify the database and web-interface.

Electronic reporting also may not function in all areas of Southeast Alaska because of limited cell phone coverage. Thus, a small number of charter operators would likely need to use written logbook in areas with poor phone coverage. Moreover, as previously discussed, enforcement would still require written logbooks on board each vessel to provide onboard evidence if the vessel is checked dockside or at sea.

4.0 Time burden for charter operators and charter anglers

All the time burden estimates provided in this section are considered approximate. It is difficult to estimate the amount of time required to complete Federal recordkeeping requirements because the recordkeeping tools and associated regulations have not been developed. Thus, the estimates provided below are largely based on the required time to complete State recordkeeping and reporting requirements. The author believes this comparison is reasonable because Federal recordkeeping and reporting would be very similar to State requirements, with directly comparable duplication in many situations.

4.1 Federal and State written media

The amount of time required to complete a Federal logbook would be in addition to the time required to meet State recordkeeping and reporting requirements (Table 5). Charter operators spend an estimated 1 to

2 minutes per angler to record angler information in the State logbook[14]. Thus, a charter with six charter anglers would spend 6 to 12 minutes recording angler information for the State logbook. A Federal logbook program would likely add 1 to 2 minutes to the time required to complete the State charter logbook. Combined, the Federal and State program would result in a charter operator spending approximately 2 to 4 minutes per angler, and approximately 12 to 24 minutes per six anglers to complete the logbooks. These estimates are approximate because the exact design of the Federal logbook is unknown and the time required to enter State logbook information may vary depending on the number of charter anglers, number of areas fished, and number of species of fish caught.

When registering for a State charter logbook, charter operators are required to present license and contact information (State business, vessel, and USCG) to the State before obtaining a charter logbook or guiding. At a minimum, a Federal program would require a charter operator to provide similar contact information as required by the State. We estimate it would take the charter guide approximately 3 to 6 minutes to report the required information to NMFS annually (if NMFS cannot use State reporting). This time would be in addition to an estimated 6 to 10 minutes required to report personal information to the State when registering for a guide license. Thus, a combined 9 to 12 minutes per vessel would be required to complete State and Federal requirements on an annual basis. Charter operators registering online who have the previous year's registration information stored in the NMFS database would likely require substantially less time to complete the registration process.

Charter anglers fishing for halibut would be required to register for an angler catch card using either an online system or written hard copy obtained from their charter operator. The amount of information required for the online form would be identical and would have very similar time requirements. Charter anglers registering online would be required to print their angler catch card, and maintain that angler catch card on their person while fishing. Charter anglers are expected to spend approximately 3 to 5 minutes completing the online or written form. This time requirement would be in addition to the estimated 3 to 5 minutes required to complete a State angling licenses. Combined, charter anglers would spend approximately 6 to 10 minutes completing State and Federal angler licenses. Moreover, duplicate information would be required by State and Federal licenses.

Charter businesses wanting to obtain a Federal catch cards to distribute to anglers would be required to register online, through the mail, or at NMFS office. This registration would require operators to submit contact information for their business and is estimated to take approximately 6-10 minutes to complete. This would be in addition to the 6-10 minutes required to complete State licensing requirement. Thus a business may spend a total of 12 to 20 minutes reporting information to NMFS and the State.

4.2 Electronic media

The amount of time required to complete the IVR reporting requirement would be largely dependent on the amount of data required, the amount of time required to connect to the IVR system through the phone, and the construction of the final voice or touch tone scripts. Because of these factors, a precise estimate of the time required to meet Federal reporting requirements is not possible.

Electronic reporting would require charter operators to spend time recording information in the written Federal and State logbook as well as utilizing the IVR system. As previously discussed, the estimated amount of time to complete the State and Federal logbook is approximately 2 to 4 minutes per angler (Table 5). An electronic IVR system would likely add an additional 2 to 3 minutes per angler to the time

[14] The estimated time burden required to complete a State charter logbook was based on input from ADF&G RTS and two charter operators.

required to complete a Federal and State logbook. Thus, charter operators would spend approximately 4 to 7 minutes per angler and 24 to 42 minutes per six anglers in order to meet Federal recordkeeping and reporting requirements.

The amount of time needed to meet State and Federal recordkeeping requirements could be reduced if enforcement is able to meet its needs without the written Federal logbook program. Removal of the written Federal logbook program would result in 3 to 5 minutes per angler being spent completing State and Federal reporting requirements. Thus, for six anglers, charter operators would be expected to be a total of 18 to 30 minutes completing electronic logbook information, which is a reduction from the 24 -47 minutes expected for all reporting methods, and slightly more than the written Federal logbook method. Charter operators would still be subject to the registration requirement as discussed for the written logbook program.

Table 5. Time burden estimates for the State and Federal logbook, electronic reporting and initial registration for each recordkeeping method. The columns and the rows of the table indicate the time burden for each recordkeeping method when considered as a single group.

	Burden measure	**State logbook**	**Federal logbook**	**Electronic reporting**
State logbook	Per angler	1 – 2	NA	NA
	Six anglers	6 - 12		
Federal logbook	Per angler	2 - 4	1 - 2	
	Six anglers	12 - 24	6 - 12	
Electronic reporting	Per angler	3 - 5	3 - 5	2 - 3
	Six anglers	18 - 30	18 - 30	12 -18
Charter registration	Annual	6 - 10	3 - 6	Registered under Federal logbook
All methods	Per angler	4 – 7 (does not include registration)		
	Six anglers	24 – 42 (does not include registration)		

Under the electronic reporting system, anglers fishing for halibut would be required to obtain an ADF&G sport fishing license as well as a Federal catch card. Thus, the time burden estimates provided for the written media apply.

5.0 Summary of costs and time burden

The use of state recordkeeping and reporting tools is the most cost effective method to enforce the annual limit. The estimated annual cost for this method is between $652,500 and $655,000 (Table 6). This cost is approximately $97,000 to $123,000 less than the electronic reporting method and $131,000 to $136,000 less than written methods. The State recordkeeping and reporting method also has the lowest time burden associated with completing the logbook and angler requirements. The reduced time requirement is largely due to the time required to complete the Federal logbook program in addition to State recordkeeping and reporting requirements. Electronic reporting has the highest time burden estimate because State and Federal written reporting requirements would need to be completed in addition to electronic reporting.

Electronic reporting does have the advantage over other reporting methods in that NOAA OLE would obtain electronic logbook information within a month. However, angler information from either the catch card or State licensing would need to be transcribed before being electronically available. As a result, angler contact information would not be available for two to three months because of the time required to transcribe angler licenses. The use of electronic information would initially cost more than all other options; however, because of a reduction in administrative costs associated with transcribing logbook information, annual costs would be lower than the written method. The amount of time required recovering initial capital investment in hardware and software was not determined for this paper.

Table 6. Summary of the cost and time burden on charter operators and anglers for each recordkeeping and reporting option.

Reporting Method	Requirements	Cost	Time Burden*	Delay until information is available to NMFS
State charter logbook and angler license	Part time Federal GS -9 Programmer time: one to two weeks Four enforcement officers	$652,500 – $655,000	Charter operator: 1 – 2 minutes per angler Angler: 3 – 5 minutes	2 – 3 months after end of charter fishing season (September)
Federal charter logbook and angler license				
Written option	Full time GS 9 Full time GS 7 One month - two weeks programmer time Other costs Four enforcement officers	Initial year: $789,000 – $801,000 Annual: $783,000 – $791,000	Charter operator: 2-4 minutes per angler Angler: 6 – 10 minutes	3 months after end of charter fishing season (September)
Electronic option	Software and hardware Initial development Ongoing programmer time Full time GS -9 Part time GS 7 Enforcement Distribution of angler catch cards and logbooks	Initial year: $816,000 – $891,000 Annual: $749,000 – $778,000	Charter operator: 4-7 minutes per angler Angler: 6 – 10 minutes	Logbook data available almost immediately (< 1 month): Angler licenses information would require 2 to 3 months after the end of the charter season for transcription

* Burden estimates for Federal reporting methods include the estimated time for charter operators to complete the State logbook.

State logbook information would not be available to NMFS and NOAA OLE for 4 to 6 months after the end of the charter fishing season (September). However, scanned logbook pages would be available much sooner. NOAA OLE could use the scanned logbook pages for specific cases where the charter vessel is identified and angler information was previously obtained. Angler information from ADF&G licensing would not be available for at least two months. For these reasons, scanned logbook information would likely only be useful for dockside and at-sea enforcement where NOAA OLE has made previous contact with a charter operator and charter anglers. NOAA OLE could not use the scanned logbook information to electronically audit anglers and charter operators.

6.0 Summary

- **To enforce the annual limit, an angler-specific catch record, linked to multiple vessels is required by NOAA OLE.** To meet this need, an angler specific catch record and charter logbook are required. This system of recordkeeping and reporting allows NOAA OLE to track

anglers across multiple vessels, perform a post season audit on angler catch, and enforce the Halibut Act.

- **Federal use of the State charter logbook and angler license is the most cost effective and least burdensome method to enforce the annual limit**. Use of the State recordkeeping and reporting system would eliminate the potential for duplication between State and Federal recordkeeping requirements, offers the lowest cost to the agency, and requires the least amount of time burden on charter anglers and operators. Use of the State logbook would also eliminate potential Paperwork Reduction Act (PRA) issues associated with the large amount of duplication if Federal reporting tools are used. The nature of these issues would need further exploration if Federal reporting tools are used.

- **Use of the State charter logbook and angler license would require a State legislative change to confidentiality law and authorization from the State to allow enforcement of State regulations by NOAA OLE.** State confidentiality law prevents NMFS and NOAA OLE from obtaining charter logbook and angler license information. In addition, because NOAA OLE is not authorized to enforce State regulations, they cannot require charter anglers and operators to show recordkeeping instruments to a Federal enforcement agent.

- **A Federal reporting program would be required if current or future State recordkeeping and reporting tools, laws, or authorities granted to NOAA OLE do not meet NOAA OLE requirements.** If the required changes are made to State law and NOAA OLE is granted the necessary authorities as previously discussed (Section 1.4), the State may still change its logbook and angler license requirements in the future, including changes to the information and reporting requirements for charter operators and anglers. Moreover, the State could make future changes to its law which may prevent NOAA OLE from accessing information essential to enforcement or change the authorities granted to NOAA OLE to enforce the annual limit. These changes would result in NOAA OLE not being able to enforce the annual limit using State reporting tools and a Federal logbook program would be necessary.

- **Implementation of the annual limit would require an increase in NMFS staff resources or a redirection of staff from current management programs**. NMFS staff is currently fully utilized on existing management activities. As a result, NMFS would need to redirect staff from current management activities or fund additional staff. It is unknown if funding for additional NMFS staff could be obtained. A redirection of staff time from current management activities would substantially reduce NMFS ability to complete current management functions.

- **Enforcement of the 5-fish annual limit would require a substantial increase in enforcement staff or a large reduction in the time spent enforcing other management regulations.** NOAA OLE estimates that four enforcements officers at an annual cost of $600,000 would be required to enforce the annual limit. If additional funds are not obtained, enforcement would not able to adequately enforce the annual limit. If enforcement staff time was redirected to enforce the annual limit, other management programs may suffer from a reduction in enforcement effort. Moreover, a reduction in enforcement effort directed at the annual limit would reduce the effectiveness of the regulation.

- **Implementation of other management measures (e.g., charter moratorium program) may be slowed down because of the large amount of staff time required to draft regulations and implement the annual limit.** If the Council continues to support the annual limit, significant NMFS staff time would be required for its implementation. As a result, other management

measures such as the moratorium may be slowed down because NMFS staff would be occupied with implementing the GHL measure.

- **The annual limit is not expected to lower charter halibut harvest to the GHL and in the future, if harvest falls below the annual limit, removal of the regulation would require proposed and final rulemaking.** The proposed annual limit was approved by the Council in response to an overage of the GHL in Area 2C. While the annual limit is expected to reduce halibut harvest by approximately 13 percent to 14 percent of the 2004 harvest, it would not have lowered halibut harvest to the GHL. Moreover, if the charter the industry is below the GHL in the future, it would not be possible for NMFS to remove the annual limit from regulation quickly. Other charter management measures currently under consideration by the Council may provide permanent harvest solutions that meet the needs of the charter industry.

- **The effectiveness of the annual limit may be undermined if the State does not issue an EO prohibiting the harvest of halibut by skipper and crew**. Charter anglers fishing from a charter vessel may receive halibut "gifted" to them from skipper and crew. Gifted fish would not count towards an angler's annual limit.

Persons consulted

Ronald Antaya. National Oceanic and Atmospheric Administration, Office of Law Enforcement. P.O. Box 21668, Juneau, Alaska 99801.

Kristin Balovich. National Marine Fisheries Serivce, Office of Management and Information. Alaska Regional Office, P.O. Box 21668, Juneau, Alaska 99801

Alan Bingham. Alaska Department of Fish and Game, RTS. 333 Raspberry Road, Anchorage, Alaska 99518

Jane DiCosimo. North Pacific Fishery Management Council. 605 West 4th St. Suite 306, Anchorage Alaska 99501

Jay Ginter. National Marine Fisheries Service, Sustainable Fisheries Division, Alaska Regional Office. P.O. Box 21668, Juneau, Alaska 99801.

Doug Vincent-Lang. Alaska Department of Fish and Game. 333 Raspberry Road, Anchorage, Alaska 99518

Haldora Sigurdsson. Alaska Department of Fish and Game, RTS. 333 Raspberry Road, Anchorage, Alaska 99518

Phil Smith. National Marine Fisheries Service, Restricted Access Management Division. Alaska Regional Office. P.O. Box 21668, Juneau, Alaska 99801.

Larry Talley. National Marine Fisheries Service, Sustainable Fisheries Division, Alaska Regional Office. P.O. Box 21668, Juneau, Alaska 99801.

References:

Cheong, S. and Miller, M.L. 2000. Power and Tourism: A Foucauldian Observation. Annals of Tourism Research 27: 371 - 390.

Cohen, E. 1985. The Tourist Guide: The Origins, Structure, and Dynamics of a Role. Annals of Tourism Research. 12: 5-29

Council. 2006. 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 Areas 2C and 3A. North Pacific Fishery Management Council, Anchorage Alaska 95501.

Gasper, J.R., M.L. Miller, V.F. Gallucci, C. Soiseth. 2006. The Diffusion of Fishery Information in a Charter Boat Fishery: Guide-Client Interactions in Gustavus, Alaska. Pages XX-XX in J.F. Piatt and S.M. Gende, editors. Proceedings of the Fourth Glacier Bay Science Symposium, 2004. U.S. Geological Survey, Information and Technology Report USGS/BRD/ITR-2006-00XX, Washington, D.C. *In press*

Gasper, J.R. 2004. The Sportfishery in the Icy Strait/Glacier Bay/Cross Sound Region of Southeastern Alaska: An Analysis of Charter Guide-Client Power Interactions and Sportfishing Catch, Harvest, and Effort. University of Washington School of Marine Affairs. Master Thesis. 177 pages.

Iannuzzi, A. 2002. Industry Self-Regulation and Voluntary Environmental Compliance. CRC Press, Washington DC. ISBN 1566705703. 200 pages.

Mallow T. F. 2003. Regulation, compliance, and the firm. Temple Law Review 76 (451). In making law work: environmental compliance and sustainable development. (2005). Cameron May. London. Pages 125 – 140.

Rechtschaffen C., and D. Markell. 2003. Reinventing environmental enforcement and the state/federal relationship. Chapter 2 and 5. In making law work: environmental compliance and sustainable development. (2005). Cameron May. London. Pages 157 – 172.

Wostmann and Associates. 2005. Interactive Voice Response System for Halibut Guided Charter Data Collection Feasibility Study. Wostmann and Associates, Inc. Juneau, Alaska 99801.

G:\halibut ghl\Annual_limit_discussion_October.doc
Jgasper 10/10/06
Reviewed John.Lepore 9/30/06
Ron Antaya 10/6/06