

***SUMMARY DATA FROM THE SPORT FISHERY FOR
PACIFIC HALIBUT IN THE IPHC AREA 2C PORTION OF
SOUTHEAST ALASKA, 2007***



by:

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TABLE OF CONTENTS

	PAGE
LIST OF FIGURES	ii
LIST OF TABLES	iii
INTRODUCTION	1
METHODS	1
Statewide Harvest Survey	1
On-Site Creel and Catch Sampling Surveys	2
Analysis of Historical Trends in HPUE, Harvest, and Effort	2
Charter Vessel Licensing and Activity	2
Biological Data	3
RESULTS	3
Regional SWHS Sport Harvests of Pacific Halibut, 1977-2006.....	3
On-Site Survey Summaries of HPUE Trends, Harvest, and Effort for 2007.....	4
Ketchikan	4
Sitka	4
Juneau.....	4
Craig and Klawock (west coast of Prince of Wales Island area)	5
Petersburg and Wrangell.....	5
Gustavus and Elfin Cove.....	6
Charter Vessel Activity.....	6
Biological Data	7
DISCUSSION	8
LITERATURE CITED	10

LIST OF FIGURES

FIGURE	PAGE
1. Map of Southeast Alaska showing boundaries of the International Pacific Halibut Commission (IPHC) regulatory areas, and the Statewide Harvest Mail Survey areas.	11
2. Sport harvest totals of Pacific halibut in IPHC Area 2C by inner and outer coastal areas from 1977 to 2003 as estimated by the Statewide Harvest Mail Survey (Howe et al. 2001 a-d, Walker et al. 2003; Jennings et al. 2004; Jennings et al. 2006 a, b; Jennings et al. 2007; Jennings et al. <i>in prep a, b</i>).	12
3. Historical halibut harvest per unit of effort (HPUE) and percent of catch retained by chartered and non-chartered anglers bottomfishing from the port of Ketchikan, Alaska from 1988 to 2007.	13
4. Semi-monthly chartered and non-chartered halibut harvest per angler-hour of bottomfishing effort (HPUE) in sampled ports of IPHC Area 2C during 2007.	14
5. Historical halibut harvest per unit of effort (HPUE) and percent of catch retained by chartered and non-chartered anglers bottomfishing from the port of Sitka, Alaska from 1988 to 2007.....	15
6. Historical halibut harvest per unit of effort (HPUE) and percent of catch retained by chartered and non-chartered anglers bottomfishing from the port of Juneau, Alaska from 1988 to 2007.....	16
7. Historical halibut harvest per unit of effort (HPUE) and percent of catch retained by chartered and non-chartered anglers bottomfishing from the port of Craig, Alaska from 1988 to 2007.....	17
8. Number of charter vessels registering with the Alaska Department of Fish and Game (ADF&G) from 1988 to 1997, the Commercial Fishery Entry Commission from 1998 to 2004, and ADF&G from 2005 to 2007 for use in Southeast Alaska waters (including Yakutat).....	18
9. Chartered and non-chartered historical trend of mean net weights (headed and eviscerated) of sport caught halibut in sampled IPHC Area 2C ports from 1998 to 2007.	19
10. Chartered and non-chartered cumulative length-frequencies of sport caught halibut sampled in IPHC Area 2C ports during 2007.....	20
11. Comparison of cumulative length-frequencies of charter sport caught halibut sampled in IPHC Area 2C ports during 2003-2007.....	21
12. Summary of the percent of fish under 32 inches that were sampled from the charter angler harvest of halibut in IPHC Area 2C ports during 2003-2007.	22

LIST OF TABLES

TABLEPAGE

1.	Historical sport harvests of Pacific halibut in IPHC Area 2C (which excludes Yakutat) of Southeast Alaska from 1977 to 2006 as reported in the Statewide Harvest Mail Survey (modified from: Howe et al. 2002 a-d; Walker et al. 2003; Jennings et al. 2004; Jennings et al. 2006 a, b; Jennings et al. 2007; Jennings et al. <i>in prep a, b</i>).....	23
2.	Total number of registered and active charter vessels by sampled ports as determined from on-site sampling in IPHC Area 2C from 2002 to 2007.	24
3.	Number of surveyed trips (including salmon fishing trips) per charter vessel by port from on-site survey sampling in IPHC Area 2C from 2002 to 2007.....	25
4.	Number of charter vessel trips surveyed during on-site sampling in IPHC Area 2C reported to be targeting bottomfish only, salmon only, or both bottomfish and salmon from 2002 to 2007.	26
5.	Estimated average length (cm) of Pacific halibut sampled during on-site surveys in IPHC Area 2C by non-chartered and chartered user groups from 2002 to 2007.....	27
6.	Estimated average net weight (in pounds) for Pacific halibut sampled during on-site surveys in IPHC Area 2C by non-chartered and chartered user groups from 2002 to 2007.	28
7.	Length frequency distributions of Pacific halibut sampled in IPHC Area 2C ports by on-site surveys for charter and non-charter user groups during 2007.....	29
8.	Summary of harvested and sampled halibut, by whole or carcass ,brought back to port by charter and non-charter anglers as indicated by on-site the creel survey and catch sampling data at the various ports in IPHC Area 2C during 2007.	30

INTRODUCTION

Sport fishing for Pacific halibut, *Hippoglossus stenolepis*, (herein referred to as halibut) in Southeast Alaska is an important recreational activity for resident and nonresident anglers alike. Sport harvests of halibut in the region rapidly increased in the late 1980s to mid-1990s as a result of continued increases in targeted effort. As the effort for this species continues to increase, an increasing demand is placed on managers to ensure the stocks can support exploitation by sport, subsistence, and commercial user groups. The Alaska Department of Fish and Game (ADF&G), Division of Sport Fish in Southeast Alaska collects some of the needed information from sport anglers returning from fishing trips. This information is compiled and presented to managers who monitor the status of these stocks. The surveys occur in the area defined by the International Pacific Halibut Commission (IPHC) as Regulatory Area 2C. This area excludes the Yakutat area of Southeast Alaska, which is included in IPHC Regulatory Area 3A (Figure 1). The following report provides a summary of the halibut data collected during the 2007 season by ADF&G creel survey staff, halibut estimates from the Statewide Harvest Survey (SWHS) through 2006, and historical trends from selected ports representative of Area 2C. Sport harvest summary information for the Yakutat area (IPHC Regulatory Area 3A) is compiled and presented by ADF&G Southcentral Region staff. All 2007 data summaries published in this report should be considered preliminary.

METHODS

Two survey methodologies are employed by ADF&G to evaluate marine sport harvests of numerous fish species (including halibut) in Southeast Alaska: the annual SWHS and on-site (creel and catch sampling) surveys. Both survey types were vital to capturing the data presented in this report.

The ADF&G mandatory saltwater charter vessel logbook program initiated in 1998 discontinued the collection of halibut data in 2002. Dean and Howe (1999) and Dean (2001) presented brief summaries of preliminary results from the 1998 and 1999 logbook programs. In 2006, ADF&G reintroduced halibut into the logbook program and expanded the detail of reporting. Prior to 2006, charter operators recorded the total catch and releases for the boat party using one line per trip in the logbook. Beginning in 2006, operators were required to record the catch and releases of each angler as separate entries, as well as the sport fishing license number for anglers over 16 and 'youth' for anglers under 16. Logbook information is not included in this report, but during the on-site survey, staff recorded whether a trip was private or chartered, meaning the vessel was registered with ADF&G and was required to fill out a logbook.

Statewide Harvest Survey

The SWHS has occurred annually since 1977. Results from this survey are currently considered to be the official and final estimates of halibut harvest and saltwater effort. The survey uses a mail questionnaire to provide harvest, catch, and effort estimates for eight primary areas in Southeast Alaska: seven areas fall into IPHC Area 2C and one area falls into IPHC Area 3A (Yakutat; Figure 1). Much of SWHS area G, the outer coast of the Glacier Bay area is north of Cape Spencer and therefore also in IPHC Area 3A. Because very little sport harvest is taken in this area, all harvest in the Glacier Bay area is assigned to IPHC Area 2C. In 2000, SWHS area G was enlarged to include all of Icy Strait and Cross Sound, and thus the southern sections of these latter two water bodies are no longer included in SWHS area D (Sitka, Figure 1).

Questionnaires are mailed to a random sample of households containing at least one angler (both resident and nonresident) who purchased an Alaska sport fishing license in a given year, or who have either a permanent identification card for residents 60 years or older, or a Disabled Alaska Veteran card (both of which are permanent fishing licenses). The questionnaire is designed to obtain fishing activity by all household members. Individuals failing to respond to a first mailing are mailed a second form within a month of the first. Those individuals still not responding after two mailings are mailed a third and final form. Estimates of effort and harvest are determined from the responses, and final estimates are corrected to account for non-response

bias. The SWHS harvest estimates from 1996-1998 were revised in September 2000 (Howe et al. 2001 a-c). The SWHS harvest estimates for 2007 will not be available until mid to late 2008.

On-site Creel and Catch Sampling Surveys

On-site surveys occurred in nine primary communities in IPHC Area 2C, and varied in duration and type based on the data collection needs of managers. Creel surveys in Juneau, Ketchikan, and Sitka began in late April and continued through late September 2007. The surveys were designed to enable managers to make inseason estimates of the sport fish harvests in local areas. Additionally, catch sampling programs were in place in Craig, Klawock, Petersburg, Wrangell, Gustavus, and Elfin Cove from May to September. Similar types of data were collected from returning anglers in these areas, but were designed in a way that did not allow for direct inseason estimates of harvests. During the 2003 season, length and effort data were collected in Elfin Cove (Glacier Bay area) as part of a graduate student project. Sampling followed the guidelines established by ADF&G and were combined with data gathered in Gustavus. In 2004, the catch sampling program in Elfin Cove became an ADF&G funded, staffed, and managed project. At all sampled ports in 2007, returning anglers interviewed by ADF&G personnel were queried for the following information: type of trip (charter vs. non-charter); vessel license number and logbook number (if charter); species targeted (bottomfish, salmon, etc.); number of anglers fishing; number of rods fished; total time (hours) spent fishing; number of days fishing (if a multi-day trip); statistical area(s) fished; composition of the catch (by number of each species kept and released); and verification of the catch (“verified” if the sampler observed the catch or “not verified” if they took the angler’s word).

Analysis of Historical Trends in HPUE, Harvest, and Effort

To compare present and historical levels of angler success, estimates of halibut harvest per angler-hour of effort (HPUE) were computed from on-site survey data collected from 1988-2007. Data from each port were separated into two classes: charter and non-charter. Start and ending times are not the same for all catch sampling ports over all years; therefore, only survey data from the beginning of June through the end of August were used for this computation. In addition, June through August is when the majority of the halibut fishery occurs in IPHC Area 2C. Average rates of retention by the two classes were computed by dividing the total number of halibut kept by the total halibut captured (the sum of the number kept and the number released) for the duration of the described period.

Charter Vessel Licensing and Activity

All charter vessel owners are required by state regulation to register their vessels annually and record the primary port where the vessel is based. From 1988-1997 owners registered with ADF&G, from 1998-2004 they licensed vessels with the Commercial Fisheries Entry Commission (CFEC), and beginning in 2005 owners registered their vessels with ADF&G through the charter logbook program. Because of the difference and changes in agency reporting requirements, the registration databases from these three time periods are not comparable. When a charter vessel was encountered during onsite interviews, the vessel license number and current logbook number was recorded. At the end of the season, the following charter information was compiled into a separate database: sampled port and date, vessel and logbook number, and the type of fishing conducted during that particular trip.

Biological Data

Length data were collected during on-site surveys when time and an accurate representation of the halibut catch allowed; the latter being of primary importance to avoid sample bias. Bias could occur within the charter fleet when smaller halibut were cleaned at sea (CAS) with the carcasses disposed of, and the larger “prize” halibut brought back to dock. Therefore, length data were collected only when all the halibut aboard the vessel were represented. Fork lengths (tip of snout to fork of tail) were recorded to the nearest 5 mm and the type of measurement (whole or carcass) and statistical area of harvest were recorded. Biological sampling

from 1998 to 2007 also captured the type of trip (charter versus private) to estimate class-specific statistics. All data sheets were digitized and edited, and net (headed and eviscerated) weights were estimated in pounds (lb) from the length-weight relationship published by Clark (1992). Because of the close proximity of Petersburg and Wrangell, length data collected from these two ports were combined prior to computing average weights. Similarly, length data from Craig were combined with Klawock, and Gustavus with Elfin Cove.

RESULTS

Regional SWHS Sport Harvests of Pacific Halibut from 1977 to 2006

The SWHS provides the official halibut harvest estimates (Howe et al. 2001 a-d; Walker et al. 2003; Jennings et al. 2004; Jennings et al. 2006 a, b; Jennings et al. 2007; Jennings et al. *in prep a, b*). The overall harvest in 2006 was 140,991 halibut, 13% below the 2005 harvest, but still the third highest harvest for the period 1977-2006 (Table 1). Area specific comparisons of harvests between 2005 and 2006 indicate decreased harvests in Juneau (43%), Glacier Bay (29%), Ketchikan (8%), Prince of Wales (7%) and Sitka (7%). The only increase was in the two areas, Petersburg/Wrangell and Haines/Skagway, which have the lowest estimated harvests of halibut. The Petersburg/Wrangell area harvest increased 19% from 2005 and was 156% of the historic average. The Haines/Skagway area increased by 19% from 2005, but was 26% below the historic average.

In 2005 and 2006, harvests from the three outer coast areas (Sitka, Prince of Wales Island, and Glacier Bay) accounted for 67% of the overall sport harvest in IPHC Area 2C (Figure 2). Since 1991, the combined halibut harvest has continued to be greater in the outer coast areas. Combined sport harvest totals from these outer coastal areas reached a record of 108,518 halibut in 2005. Although 12% below the 2005 harvest, the 2006 harvest of 95,104 in the outer coast areas was the second highest harvest from 1977-2006, remaining 10% above the recent 5-year average. From 1980-1987, outer coast harvests had remained at approximately 10,000 fish per year. The great increases in the harvest from the outer coastal areas since 1987 can be attributed to increased effort by charter anglers.

The inner coastal areas consist of Juneau, Ketchikan, Petersburg/Wrangell, and Haines/Skagway. Historically, the halibut harvests in the inner coastal area have increased only slightly since 1987, ranging from 30,700 to 46,400 halibut per year. However, in 2004 and 2005, the harvest increased 13% and 17%, respectively over the previous record harvest in 1997. In 2006, the inner coast harvest of 45,887 decreased by 15% from the 2005 harvest, but was 8% higher than the 2001-2005 average.

In 2000, the boundary in the SWHS between area G (Glacier Bay) and area D (Sitka) was modified resulting in the size of area D decreasing and area G increasing (Figure 1). The harvest levels of halibut in area D remained about the same during the first year after the modification. However, in the following years the harvest in area D increased to a record high of 33,104 halibut in 2001, decreased to 25,156 halibut in 2002, and then continued to increase to another record high of 42,185 in 2005. The annual halibut harvest in area G since the modification of the boundary jumped from below 9,300 fish prior to 2000 to between 13,639 and 27,389 fish during 2000-2006 (Jennings et al. 2004; Jennings et al. 2006 a, b; Jennings et al. 2007; Jennings et al. *in prep a, b*).

On-site (Creel & Catch Sampling) Survey Summaries of HPUE Trends, Harvest, and Effort for 2007

Ketchikan

The 2007 Ketchikan charter angler HPUE of 0.301 was up 15% from the 2006 rate of 0.262 and 7% above the recent 5-year average of 0.282 (Figure 3). Ketchikan's non-chartered angler HPUE hit a record high in 2007 of 0.176, which was 22% higher than both the 2006 HPUE (0.145) and recent 5-year average of 0.144. While the 2007 HPUE for the Ketchikan area was an increase from 2006, overall, Ketchikan chartered and non-chartered anglers ranked fourth and fifth respectively out of the six ports for HPUE. Charter anglers retained a higher proportion of halibut, 92% (an increase of 15% from 2006), while non-chartered anglers retained halibut at a similar rate to last year. Ketchikan's semi-monthly HPUE for charter anglers peaked in late July, fell in early August, then increased again in late August (Figure 4). Ketchikan's semi-monthly HPUE for non-chartered anglers was low in early June then increased slightly and remained steady for the season.

Preliminary creel survey data indicate that during 2007, the estimated total targeted effort (charter and non-charter) for halibut in the Ketchikan area was 15% above last year and 37% above the recent 5-year average. The total number of kept halibut increased 33% from 2006 and 52% from the recent 5-year average. The charter fleet accounted for 29% of the total bottomfishing effort and 35% of the sport harvest of halibut in 2007, while in 2006 the charter fleet accounted for 27% of the bottomfish effort and 38% of the halibut harvest.

Sitka

Consistent survey data in Sitka is only available from 1992-2007; therefore HPUE is not presented for the years from 1988-1991. Limited data are available from 1988-1989, but not presented. HPUE rates for chartered and non-chartered halibut anglers steadily increased reaching a peak in 2003 and 2004, respectively (Figure 5). After the charter HPUE peaked in 2003, it began declining while the non-charter HPUE remained steady.

Sitka's 2007 chartered HPUE of 0.302 ranked third regionally, behind Craig/Klawock and Juneau, and was similar to the 2006 rate. However, the 2007 HPUE was down 32% from the 2002-2006 average HPUE of 0.447. The charter angler HPUE remained relatively steady, with a slight peak in late July (Figure 4). The Sitka non-chartered HPUE of 0.231 also ranked third regionally, down 20% from 2006, and down 13% from the recent 5-year average. Sitka's non-charter HPUE peaked in late June then fell dramatically in early July, stabilizing through early August then increasing in late August. The retention rate for chartered anglers was 91%, up 3% from last year, and up 6% from the 5-year average of 86%. The retention rate for non-chartered anglers was 76%, a 10% decrease from 2006 and a 9% decrease from the 5-year average of 84%.

Preliminary creel survey estimates indicate that the total estimated bottomfishing effort in Sitka in 2007 decreased 9% and the harvest of halibut decreased 6% from 2006. Bottomfishing effort decreased negligibly (0.2%) from the recent 5-year average, but the harvest of halibut decreased by 25%. In 2007, the charter fleet accounted for 92% of the total bottomfishing effort, very similar to 2006 and 2005; and accounted for approximately 91% of the 2007 sport harvest of halibut in Sitka, which was identical to 2006.

Juneau

The HPUE for Juneau's non-chartered anglers was 0.174, an increase of 14% from 2006, and an increase of 5% from the recent 5-year average. Despite this increase, the non-chartered HPUE rate was the lowest regionally. Juneau area chartered anglers had an HPUE of 0.369, the second highest HPUE historically, after 2004. This ranked the Juneau chartered HPUE rate second regionally, behind Craig/Klawock, and was an increase of 11% from 2006 and an increase of 22% from the recent 5-year average (Figure 6). The charter HPUE varied during the season, with a peak in early July and a larger peak during early August (Figure 4). In

contrast, Juneau's non-charter angler HPUE remained fairly constant throughout the year. The retention rates for non-chartered anglers decreased 17% from 2006, and decreased 15% from the recent 5-year average. Retention rates for chartered anglers decreased 8% from 2006, and 15% from the 5-year average.

Preliminary 2007 estimates for total effort and harvest indicate that, compared to 2006, the total targeted bottomfishing effort increased by only 9%, but the estimated total harvest increased by 31%. The 2007 estimated bottomfishing effort also increased over the recent 5-year average by 8% and the estimated total harvest of halibut increased by 22% over the 5-year average. In 2007, the Juneau charter fleet accounted for about 9% of the targeted effort and 16% of the sport harvest of halibut, while in 2006 the charter fleet represented 11% of the targeted effort and harvested 22% of the halibut.

Craig and Klawock (West Coast of Prince of Wales Island Area)

Survey data were available to compare HPUE rates for the period 1992-2007 (excluding 1993). Also, in 1997, a number of charter vessels in Craig began landing clients and their harvest at private docking facilities not accessible by our survey staff. Therefore, estimates of HPUE for the charter fleet for 1997 and 1998 were not as well estimated as they had been in prior years. In 1999, sampling efforts were expanded to nearby Klawock in an effort to increase survey data for the expanding west coast of Prince of Wales Island sport fishery. In 2007, information collected during on-site creel surveys increased because of an increase in the number of full interviews versus collecting biological information.

During 2007, the non-charter HPUE of 0.292 increased 28% from 2006, and increased 7% from the 2002 high of 0.274. The charter HPUE rate of 0.423 was 11% higher than 2006, but 58% lower than the 2002 record high HPUE of 1.009 (Figure 7). During 2001 and 2002, the charter HPUE in the Craig/Klawock area peaked, and since then the charter HPUE has continued to decrease. Compared to the recent 5-year average (2002-2006), the chartered HPUE for 2007 decreased 28%, where the non-chartered HPUE increased 32%. Compared to last year, both chartered and non-chartered anglers from Craig/Klawock retained a lower percentage of their catch, 72% and 70%, respectively. In comparison to the other major ports, Craig charter anglers had the highest regional semi-monthly HPUE, and non-chartered anglers had the second highest. The HPUE for the charter fishery remained relatively consistent and peaked in early August (Figure 4). In contrast, the non-charter HPUE peaked in late June then declined throughout July and peaked again in late August.

Petersburg and Wrangell

For the 2002-2007 seasons, the sampling period in Petersburg/Wrangell was extended from May to September, making comparisons with other ports possible for the entire season. Previously, Petersburg/Wrangell had abbreviated sampling seasons; usually ending in July, when monitoring the Chinook salmon fishery was completed. The non-charter HPUE for 2007 was 0.210, an increase of 9% from 2006, placing it fourth in the region. The semi-monthly HPUE for non-charter anglers increased into late July then remained relatively steady, decreasing slightly through August (Figure 4). The charter angler HPUE was 0.243, an increase of 29% from 2006. Even with this increase, the charter HPUE still remained sixth in the region. The chartered HPUE rate increased in early June and remained fairly constant throughout the season with a slight dip in late July. The retention rate for halibut in the Petersburg/Wrangell area was the lowest of the "inside" ports at 54% for non-chartered (a decrease of 3% from 2006) and 47% for chartered anglers (an increase of 20% from 2006). Despite this increase, the Petersburg/Wrangell charter retention rate was again the lowest in the region.

Gustavus and Elfin Cove

This was the sixth year of ADF&G creel sampling in Gustavus and the fifth at Elfin Cove. Since the two ports are close to each other, and both fall into SWHS area G, effort and length data gathered in Elfin Cove were combined with data gathered in Gustavus. Results show that the HPUE for non-chartered anglers of 0.251 was the highest in the region, an increase of 21% from last year. In contrast, the HPUE of 0.276 for chartered anglers was an increase of 28% from 2006, but continued to be lower than the other outside ports of Sitka and Craig/Klawock (Figure 4) and ranked fifth regionally. Non-charter anglers in Gustavus/Elfin Cove had the lowest retention rates in the region, retaining only 52% of their catch, even though this was an increase of 23% from 2006. Charter anglers retained 49%, a 14% increase from 2006, ranking a close second to lowest behind Petersburg/Wrangell. These low rates of retention indicate that anglers here and in Petersburg and Wrangell, are participating in more catch and release halibut fishing than other areas of IPHC Area 2C.

Charter Vessel Activity

In 2007, 928 charter vessels registered with ADF&G in Southeast Alaska (this includes 18 vessels in Yakutat, Figure 8). This is a decrease of 2% in the number of registered vessels from 2006. Due to registration changes in 2005, only vessels used in saltwater chartering are included in the total (similar to 1988-1997 reporting). From 1998-2004 vessels used in freshwater and for the transport of anglers to and from shore were also included in the total, explaining the increase in registered vessels during this period. The total number of charter vessels registering annually with ADF&G increased steadily from 1988-1997 in Southeast Alaska, more than tripling during that time period. From 1998-2004, the number of registered vessels increased mainly due to the changes in registration requirements. The number of registered vessels from 2005-2007 is similar to the number seen at the end of the 1988-1997 period. The new system should more accurately track the number of charter vessels but it will take a few years to see potential trends developing.

On-site survey data indicate that not all registered charter vessels at sampled ports were encountered by creel personnel for several possible reasons: some charter vessels used a dock or boat launch not surveyed by our samplers at a given port, some used a dock or boat launch that we did survey but they were never encountered during our sampling, or some never actively participated in charter fishing activities. Of the 702 vessels (does not include 11 vessels from Haines and Skagway) that registered to operate in the IPHC Area 2C ports sampled during 2007, only 424 (60%) of the vessels were verified as "actively" chartering during on-site surveys (Table 2). Gustavus and Elfin Cove had the highest percentage of active registered vessels at 90% and 93%, respectively, while the other ports ranged from 33% active in Petersburg/Wrangell to 69% active in Craig/Klawock. Overall, on-site data indicate an increase of 2% in the number of active charter vessels that targeted bottomfish during 2007. Of the 424 active charter vessels surveyed in the region during 2007, 315 (74%) targeted bottomfish or both salmon and bottomfish on at least one of the surveyed trips.

Interview frequency of individual charter vessels decreased in Sitka, Juneau, and Gustavus, and increased in Craig/Klawock, Petersburg, Wrangell, and Elfin Cove, and remained similar in Ketchikan (Table 3). The number of vessels surveyed by creel personnel on more than four occasions remained similar to last year except for in Craig/Klawock. In Craig, a major reduction in interview frequency per vessel occurred from 1996-1998 due to movement of some of the fleet to private docking facilities, rather than a decrease in vessel activity. Starting in 1999, supplemental data from charter trips surveyed in Klawock were pooled with the Craig data. In addition, in 2007, more creel interviews were completed from anglers in Craig/Klawock, as opposed to catch sampling interviews (which only record species composition, angler type and area fished).

Juneau, Ketchikan, Craig/Klawock, and Wrangell charter vessels were more likely to target "salmon only" in 82%, 57%, 48%, and 47% of the trips, respectively (Table 4). For Juneau and Ketchikan, this is likely due to the abundant supply of local hatchery-produced salmon. The percent of "salmon only" trips decreased in Ketchikan and Craig/Klawock from 2006, and the percent of "bottomfish only" trips decreased at each of these four ports except for Craig/Klawock which remained the same. In 2007, Petersburg and Gustavus charter operators continued to have an increased number of "bottomfish only" trips as opposed to "salmon

only” trips (54% to 20%, and 56% to 12%, respectively), and targeted both bottomfish and salmon in 26% and 31% of the trips. Sitka (62%) and Elfin Cove (66%) operators pursued both salmon and bottomfish on the same trip more often than operators in the rest of the region. Charter operators in Ketchikan and Juneau pursued both salmon and bottomfish on fewer than 15% of their trips. On a regional basis, the average relative percentage of charter trips by target based on the creel survey interview data during 2002-2007 has been 40% “salmon only” trips, 42% combination trips, and 17% “bottomfish only” trips.

Biological Data

Regionwide, 13,178 halibut measurements were taken in 2007, 25% more than last year (Table 5). Most of the additional halibut measurements were a result of increased sampling in Sitka due to the NMFS regulation. In 2007, Sitka collected 2,934 samples, 351% more than the prior year. There were an increased number of samples collected in Juneau (106%) and in Petersburg/Wrangell (42%). The numbers of Ketchikan and Craig/Klawock samples were down by 32% and 40% respectively, where samples in Gustavus/Elfin Cove remained relatively consistent to prior years. There were a lower number of biological samples from Craig/Klawock, but a higher number of full interviews due to the change in sampling protocol last year.

During 2007, the waters around the Gustavus/Elfin Cove area continued to produce the largest charter harvested halibut on average (31.6 lb net weight, Table 6), followed by Petersburg/Wrangell (22.0 lb), Sitka (18.5 lb), Ketchikan (15.5 lb), Juneau (12.1 lb), and Craig/Klawock (10.0 lb). The Gustavus/Elfin Cove area non-charter anglers in 2007 also harvested the largest halibut on average (25.6 lb, Table 6), followed by Petersburg/Wrangell (17.0 lb), Ketchikan (15.7 lb), Sitka (15.2 lb), Juneau (12.5 lb), and Craig (10.7 lb).

Precision goals (expressed as relative precision, RP) for the average net weight estimates in each angler class were $\pm 10\%$ for private anglers and $\pm 5\%$ for charter anglers at the 90% level of confidence. This goal was achieved for the non-charter angler class at Ketchikan (RP=7%), Petersburg/Wrangell (RP=5%), Juneau (RP=5%), and Gustavus/Elfin Cove (RP=9%), while the goal was not achieved at Sitka (RP=18%) and Craig/Klawock (RP=11%). The estimated average net weights of halibut harvested by charter anglers at Petersburg/Wrangell (RP=5%), Sitka (RP=4%), and Gustavus/Elfin Cove (RP=4%) met the precision goal, while the estimated net weights in Ketchikan (RP=9%), Craig/Klawock (RP=6%), and Juneau (RP=8%) did not. Small sample sizes of halibut harvested may be the reason for not achieving the precision goals.

During 2007, the average net weight of halibut harvested by charter anglers decreased from the 2006 values at Sitka (-28%), Ketchikan (-18%), Petersburg/Wrangell (-17%), and Juneau (-16%), while in Craig and Glacier Bay there was a 3% and a 10% increase, respectively, in average net weight (Table 6). The average net weight of halibut harvested by non-charter anglers increased at Gustavus/Elfin Cove (46%), Ketchikan (17%), and Petersburg/Wrangell (11%), had no change in Craig (0%), and decreased in Juneau (-4%) and Sitka (-11%, Table 6). Long-term trend data for mean net weights indicate a larger difference in the average weights of halibut by port in the charter fishery versus non-charter (Figure 9).

Length frequency distributions of the halibut harvested during 2007 varied between fisheries (Table 7, Figure 10). The largest halibut harvested by non-charter anglers were from Gustavus/Elfin Cove with 42% sampled larger than 95 cm. Petersburg/Wrangell had 81% falling in the 65-104 cm range, and Ketchikan and Sitka had 72% and 77% of the sampled catch falling in the 65-94 cm range, respectively. In Juneau, 81% of the halibut harvested by non-charter anglers were in the 55-94 cm range, and 81% of the sampled halibut in Craig/Klawock were in the 55-84 cm range (Table 7).

Gustavus/Elfin Cove charter anglers also harvested the largest halibut, with 49% of the halibut sampled being larger than 95 cm. In the Petersburg/Wrangell area, 64% of the halibut harvested by charter anglers were in the 75-104 cm range. In Ketchikan, 85% of the charter halibut harvests were in the 65-104 range, while most of the halibut harvested by charter anglers in Sitka (67%) and Juneau (79%) were in the 65-94 cm range. Craig/Klawock area charter anglers harvested the smallest halibut, with 85% falling in the 55-84 cm range (Table 7).

Because of the growing importance of accurate and precise average weight estimates for use in the Guideline Harvest Level (GHL) program, there was concern regarding whether length data collected in IPHC Area 2C were from a representative sample of halibut harvested. Collecting an adequate number of lengths was an issue in Sitka. From 2001-2006, 85%-90% of the charter halibut returning to port were CAS. In early June 2007, new regulations issued by NOAA Fisheries for guided (chartered) sport fishing anglers in IPHC Area 2C went into effect to reduce the number of pounds of halibut harvested by guided sport charter vessels (Federal Register 2007). Specifically, the daily bag limit remained at two halibut per day for guided anglers; however, at least one of the fish could be no more than 32 inches long. To allow for enforcement, the regulation required that all charter vessels at least retain the carcasses until the fillets were offloaded. This regulation gave the on-site survey crew the opportunity to collect more halibut measurements from guided angler harvests by having access to all halibut on board. In Sitka in 2007, 61% of the halibut sampled came from carcasses that would not have been sampled without the new landing requirements, allowing 34% of the halibut observed by on-site crew to be sampled (Table 8) compared with 4% last year.

The length data of sampled charter harvested halibut for the various IPHC Area 2C ports during 2003-2007 provides a means of assessing the impact of the 2007 NOAA Fisheries regulation for guided (chartered) sport fishing anglers in that area. The cumulative length frequency by ports in 2007 indicate that the length frequency of charter harvested fish shifted to smaller sizes at most ports, especially at Petersburg/Wrangell and Sitka (Figure 11). An examination of the percent of the halibut (number of fish) under 32 inches that have been harvested by charter anglers at the IPHC Area 2C ports during 2003-2007, as estimated by our onsite sampling programs, also indicates that fish under 32 inches in length made up a greater percent of harvested fish in 2007 at most ports (Figure 12), with the exception of Craig where fish under 32 inches had already made up the majority of the harvest in recent years.

DISCUSSION

It is evident that sport fishing for halibut will continue to be an important activity for sport anglers and that continued demand will produce a relatively consistent annual harvest given no major change in stock status. The 2007 projected IPHC Area 2C regional halibut harvest is 151,704 fish, based on a new method of double exponential projections of Area 2C-wide charter harvests and single exponential projections of Area 2C-wide private harvests. This 2007 projection is 8% higher than last year's harvest of 140,991 halibut. This year, 13,178 halibut measurements were taken, the highest number of halibut ever measured during the creel survey. Fishing activity for both bottomfish and salmon by charter vessels remained high during 2007, with the number of surveyed trips (n= 4,779) being the highest on record, and a result of the increased sampling at Craig/Klawock. According to the most recent effort data available from the SWHS (2006), the combined number of resident and nonresident sport-fishing trips was up by 5% compared to the recent 10-year average (1996-2005). During this period, days fished by resident anglers decreased by 12%, while the number days fished by nonresident anglers increased by 23% (Howe et al. 2001 a-d; Walker et al. 2003; Jennings et al. 2004; Jennings et al. 2006 a, b; Jennings et al. 2007; Jennings et al. in prep a, b). Many nonresident anglers take a charter sport fishing trip while visiting Southeast Alaska. As projections for numbers of visitors to the region continue to increase annually, there is little reason to expect that nonresident angling pressure will drop off significantly in the future.

The growth in the size of the charter vessel fleet in Southeast Alaska appears to have stabilized. However, because of the new reporting process, it will take a few years to see the trends in number of registered vessels. Prior to this year, the number of registered charter vessels peaked in 2001 at 1,302 vessels, and then remained relatively consistent. As the number of charter trips continues to rise, halibut will continue to be harvested in large numbers. The charter fleet will no doubt continue to target halibut throughout much of the salmon fishing season (usually June through August). In areas where salmon are abundant, more effort will be redirected toward halibut after a daily limit of salmon has been taken. The outer coast ports of Elfin Cove and Sitka had the highest proportion of combination trips for the region at 66% and 62%, respectively, followed by

Craig/Klawock (32%) and Gustavus (31%). Where halibut were less abundant (traditionally the inside ports), the percentage of combination trips was much lower, with Wrangell at 24%, Petersburg at 26%, Ketchikan at 15%, and Juneau at 10%. Shifts in fishing effort are also more likely to occur with nonresident chartered anglers who are limited to lower daily bag limits and annual harvests of Chinook salmon, *Oncorhynchus tshawytscha*, in Southeast Alaska. After a daily or annual limit is attained, and when other salmon species are not available, the remainder of their charter fishing time will likely be spent pursuing halibut and other bottomfish such as lingcod, *Ophiodon elongatus*, and rockfish, *Sebastes* spp.. Note that in the 2007 season in IPHC Area 2C, lingcod had a nonresident annual limit of 1 lingcod, restricted season and slot size limit, and yelloweye rockfish, *S. ruberrimus*, had a nonresident annual limit of 2 fish and a nonresident daily bag limit of 1 fish per day. These restrictions on two highly prized bottomfish species are also focusing bottomfish effort on halibut and other rockfish species, especially for guided anglers who fish more than one day.

The 2007 NOAA Fisheries regulation for guided (chartered) sport fishing anglers in IPHC Area 2C (i.e., two fish per day, of which one had to be under 32 inches in length) had the desired effect of decreasing the average weight of charter harvested fish at most of the sampled ports. The one port where average weight actually increased for charter caught fish was Glacier Bay, where indications are that while the percent of fish under 32 inches increased from 2006, there may have been some high-grading of the one large halibut per client per day which resulted in an overall increase in the average weight.

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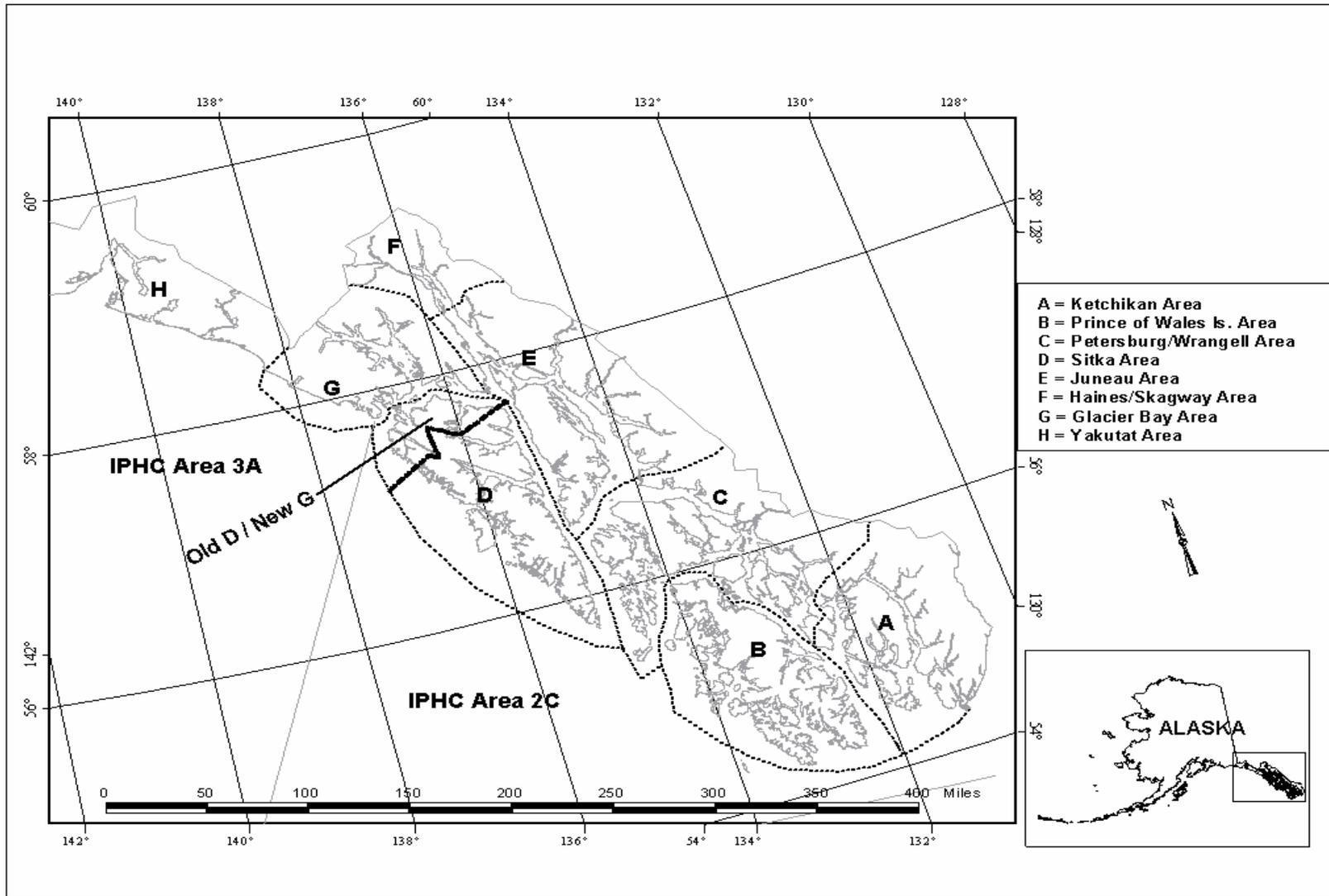


Figure 1.-Map of Southeast Alaska showing boundaries of the International Pacific Halibut Commission (IPHC) regulatory areas, and the Statewide Harvest Mail Survey areas. Note the area labeled “Old D/New G”, which prior to 2000 was part of SWHS area D but now is part of area G.

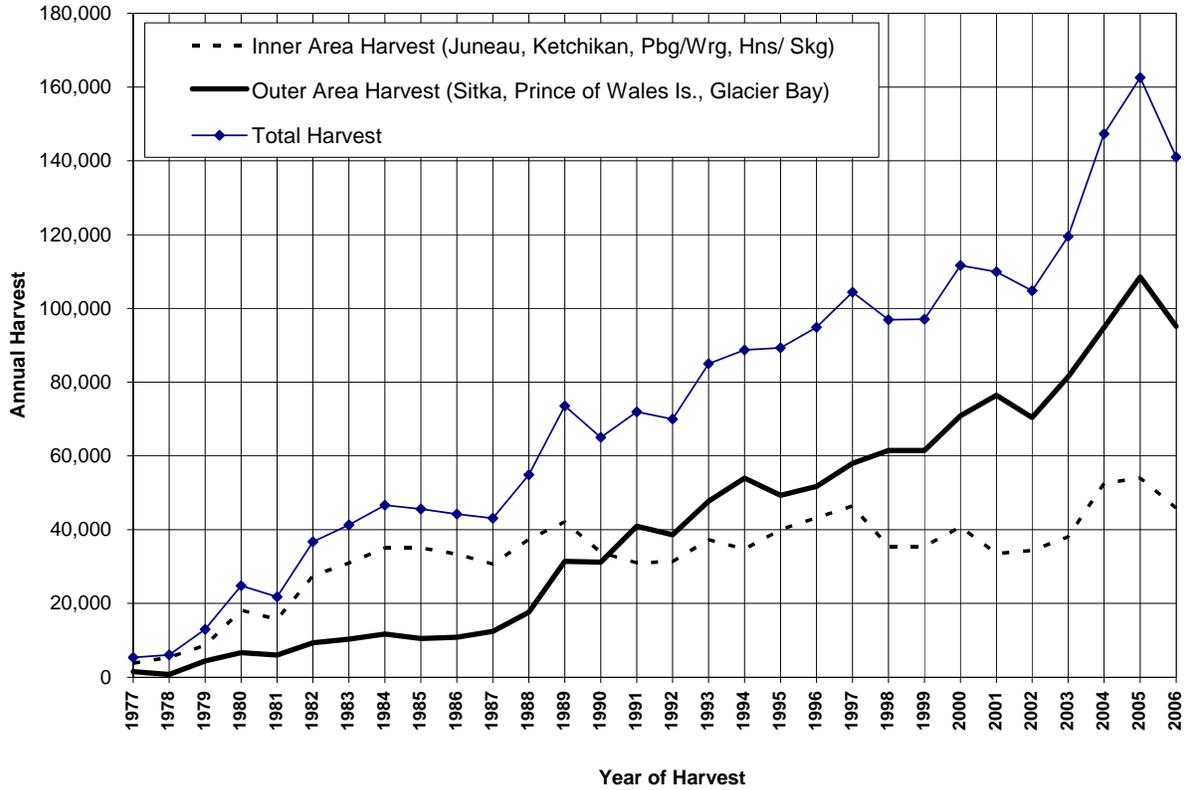


Figure 2.-Sport harvest totals of Pacific halibut in IPHC Area 2C by inner and outer coastal areas from 1977 to 2006 as estimated by the Statewide Harvest Mail Survey (Howe et al. 2001 a-d; Walker et al. 2003; Jennings et al. 2004; Jennings et al. 2006 a, b; Jennings et al. 2007; Jennings et al. *in prep a, b*). The SWHS estimates for 1996-1998 were revised by ADF&G in September 2000.

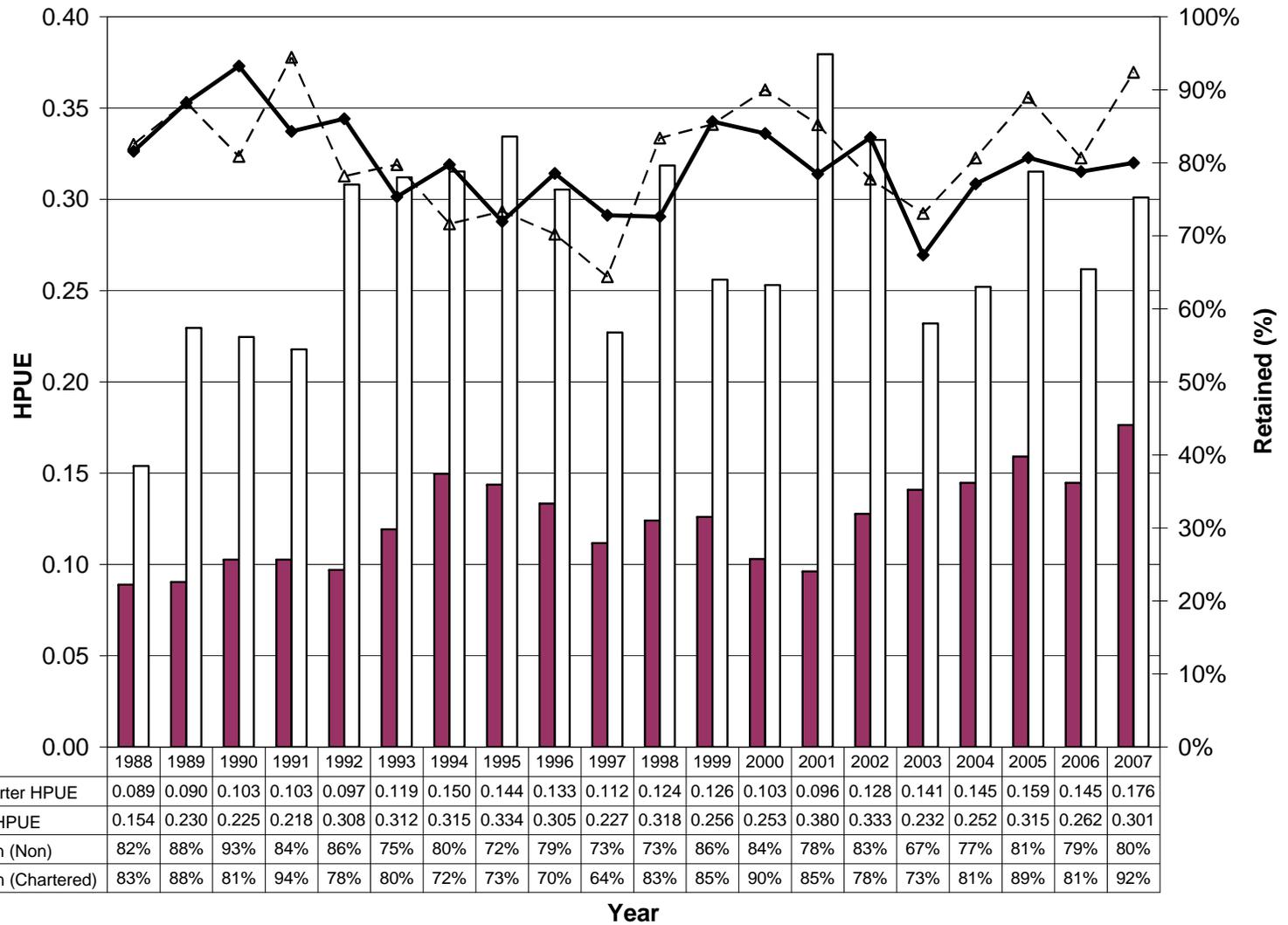


Figure 3.-Historical halibut harvest per unit of effort (HPUE) and percent of catch retained by chartered and non-chartered anglers bottomfishing from the port of Ketchikan, Alaska from 1988 to 2007. HPUE is measured as the number of fish kept per angler-hour of bottomfishing effort

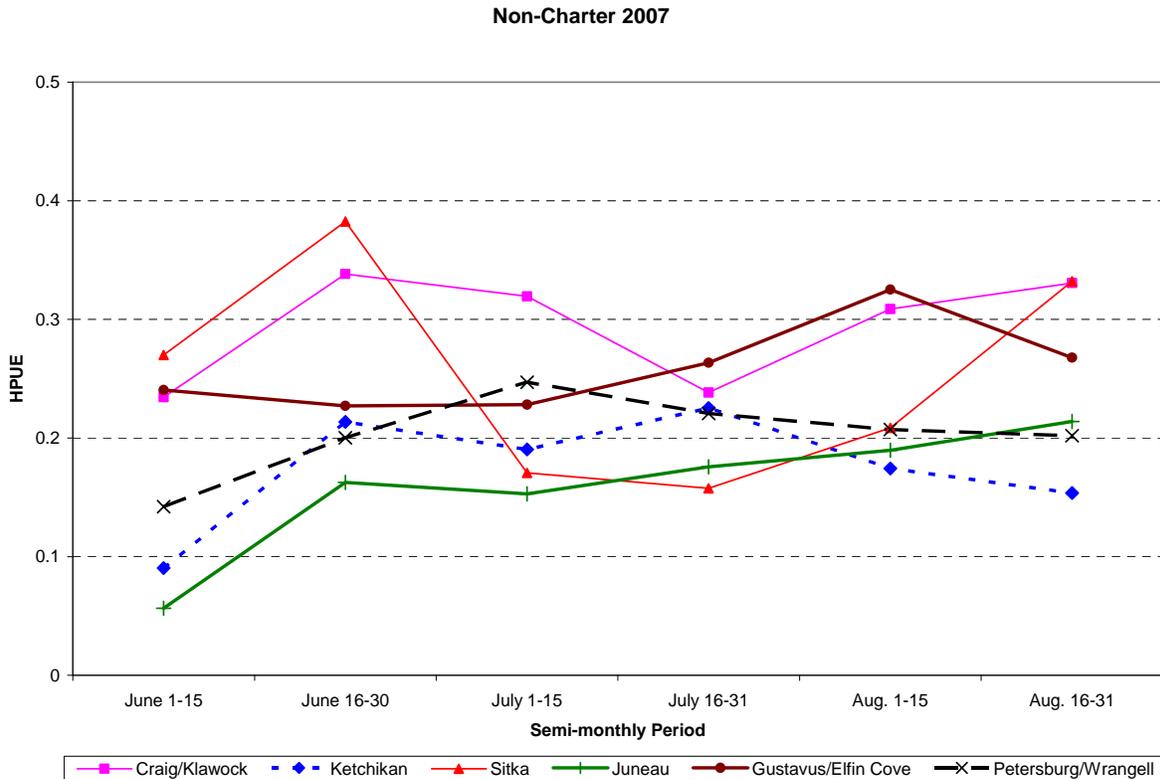
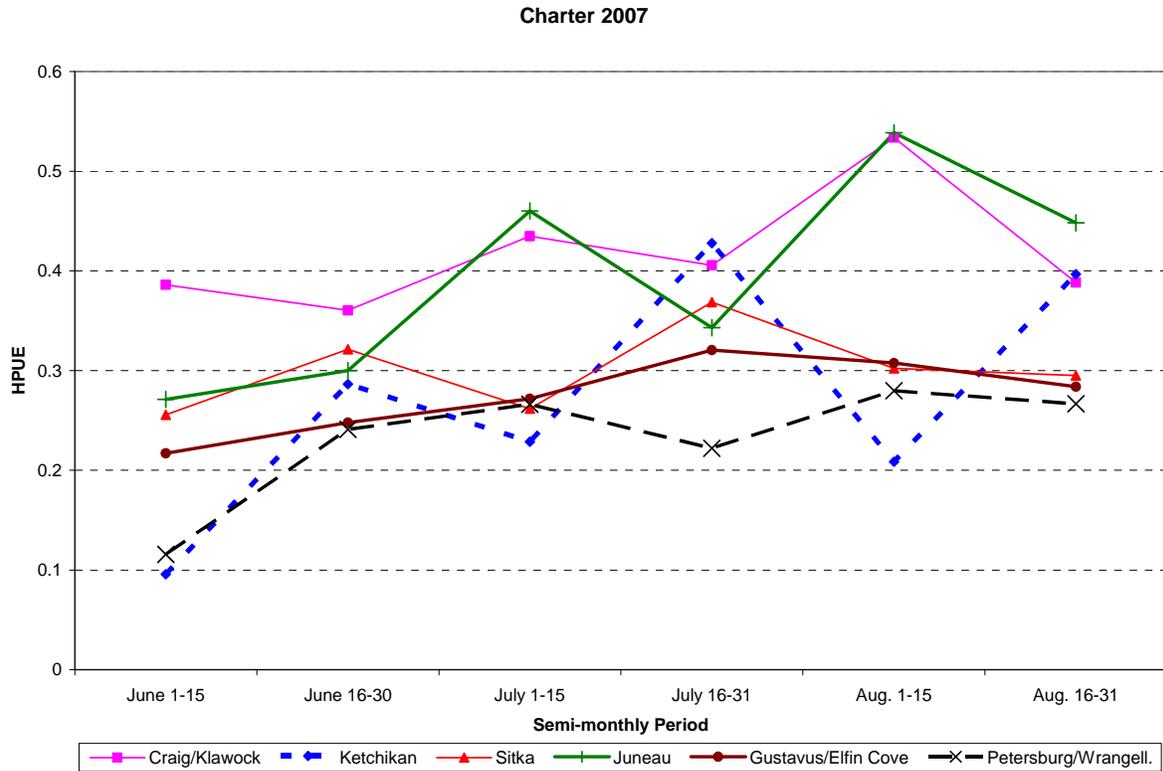


Figure 4.-Semi-monthly chartered and non-chartered halibut harvest per angler-hour of bottomfishing effort (HPUE) in sampled ports of IPHC Area 2C during 2007.

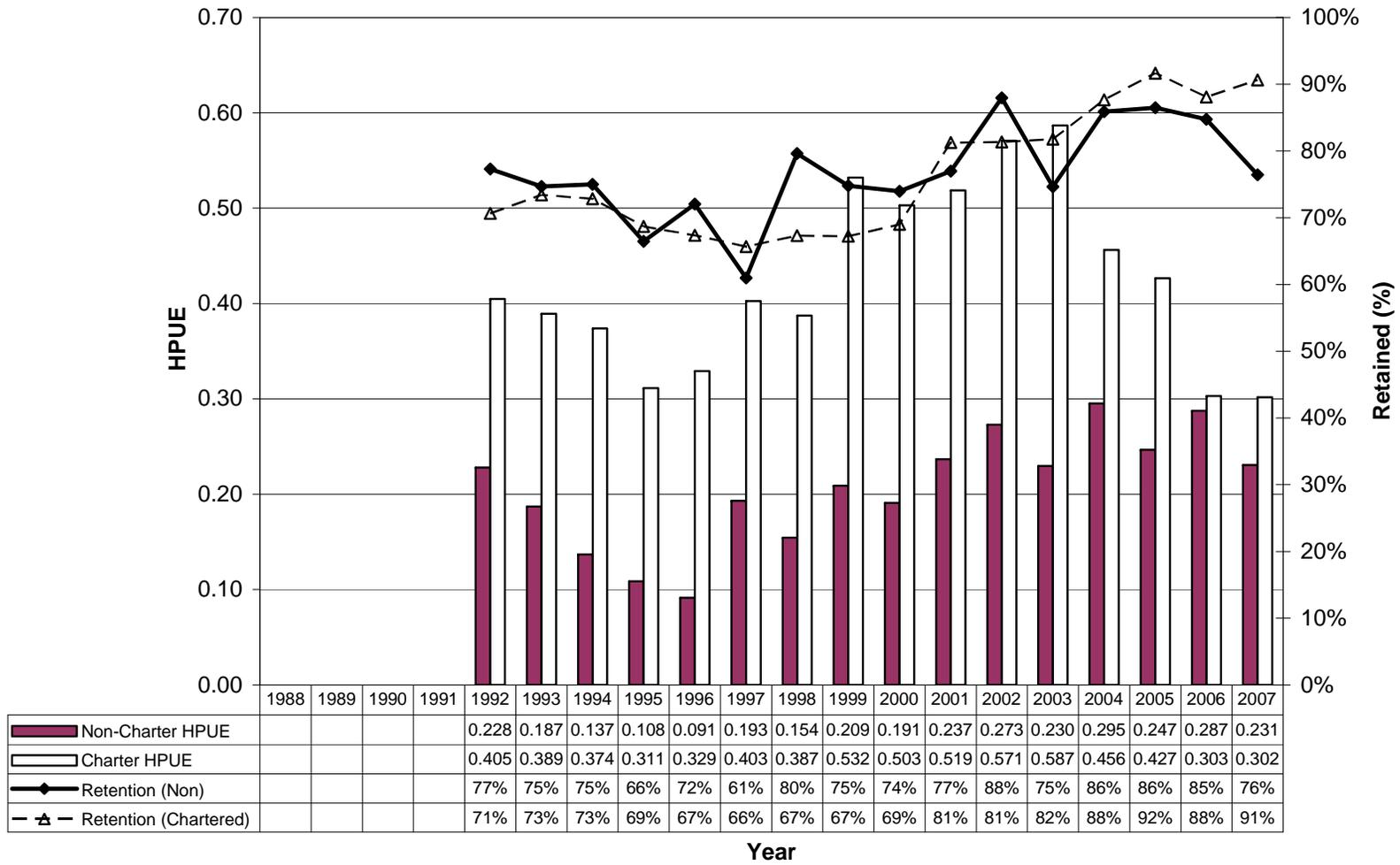


Figure 5.-Historical halibut harvest per unit of effort (HPUE) and percent of catch retained by chartered and non-chartered anglers bottomfishing from the port of Sitka, Alaska from 1992 to 2007. HPUE is measured as the number of fish kept per angler-hour of bottomfishing effort.

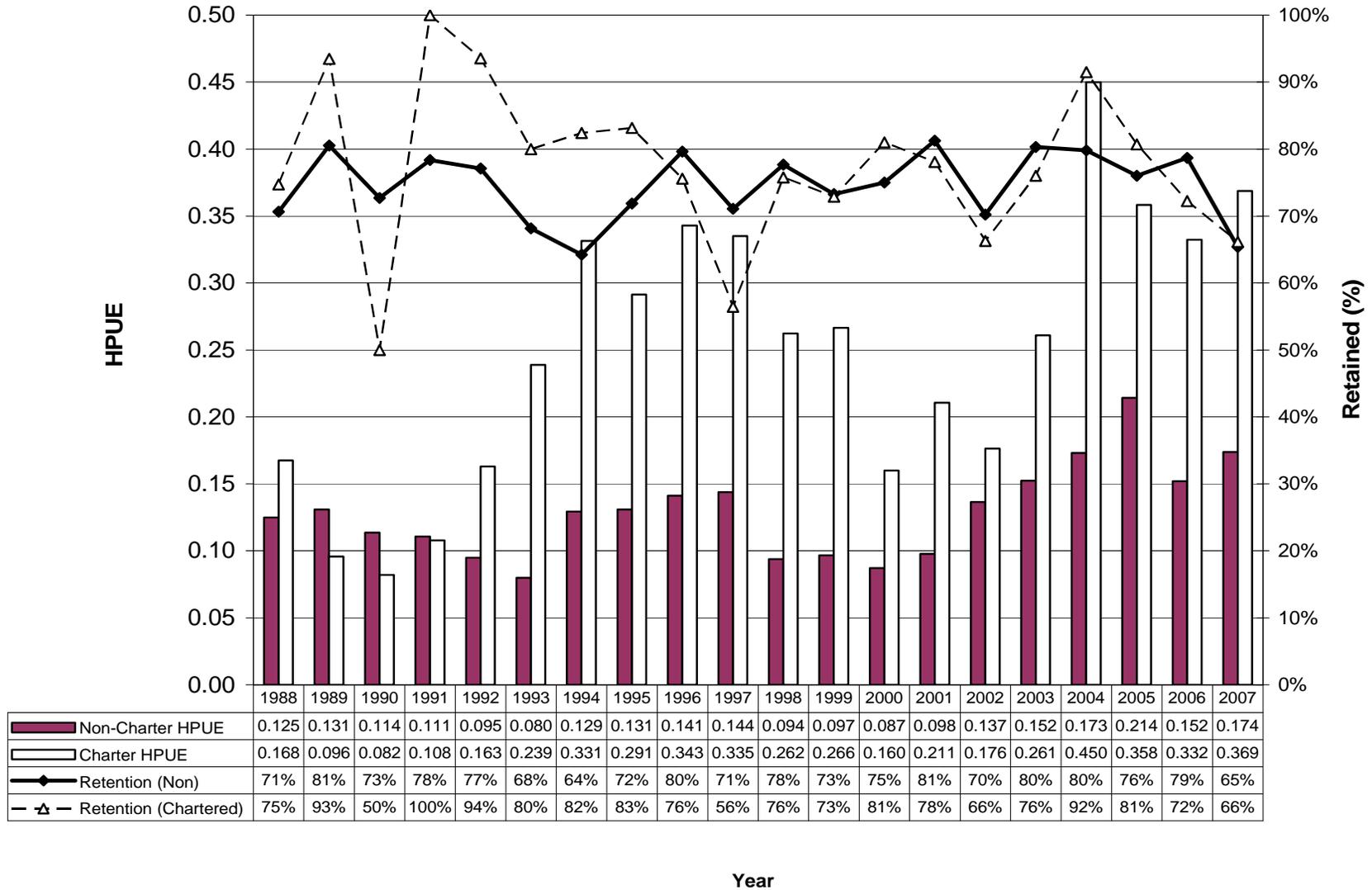


Figure 6.-Historical halibut harvest per unit of effort (HPUE) and percent of catch retained by chartered and non-chartered anglers bottomfishing from the port of Juneau, Alaska from 1988 to 2007. HPUE is measured as the number of fish kept per angler-hour of bottomfishing effort.

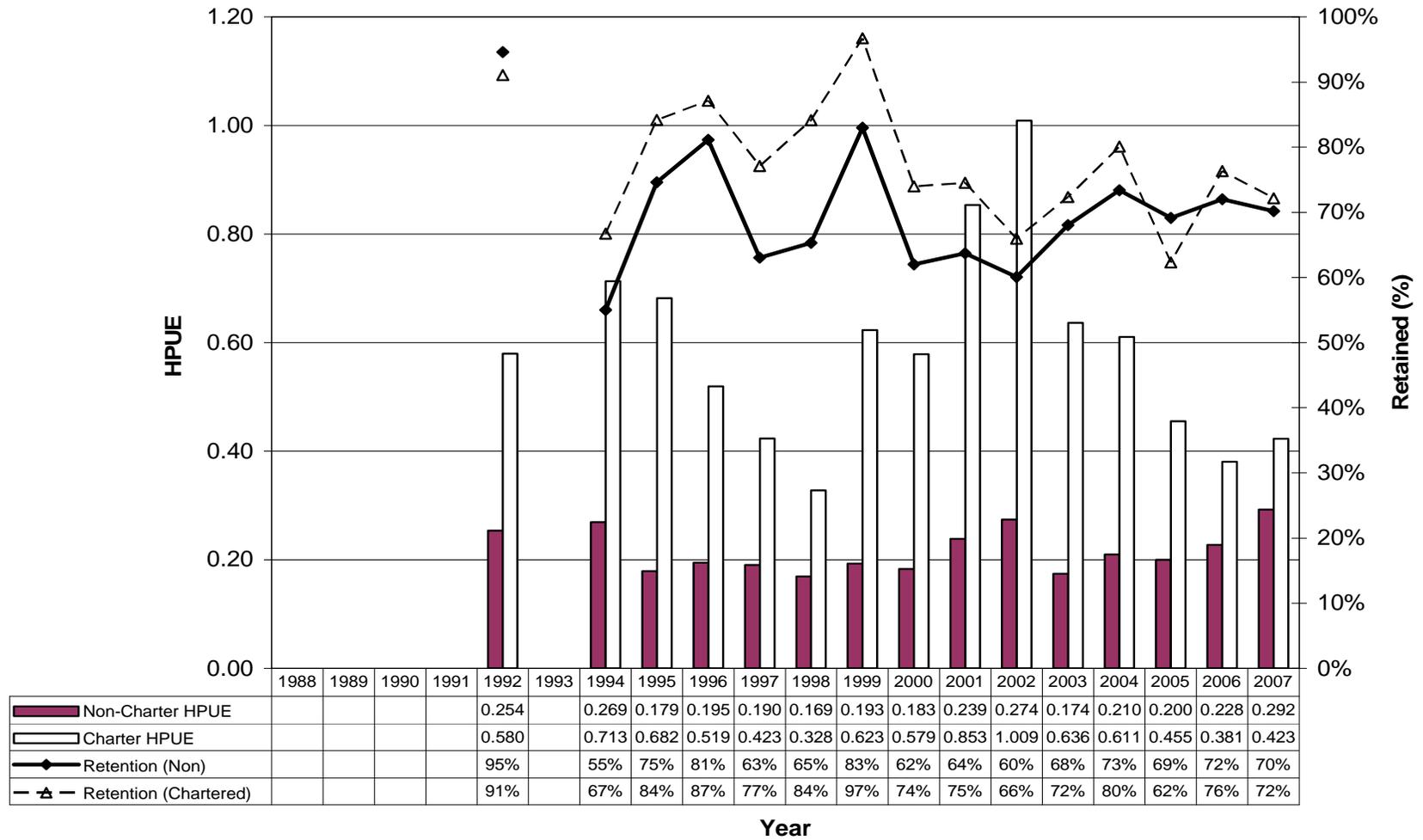


Figure 7.-Historical halibut harvest per unit of effort (HPUE) and percent of catch retained by chartered and non-chartered anglers bottomfishing from the port of Craig, Alaska from 1992 to 2007. HPUE is measured as the number of fish kept per angler-hour of bottomfishing effort.

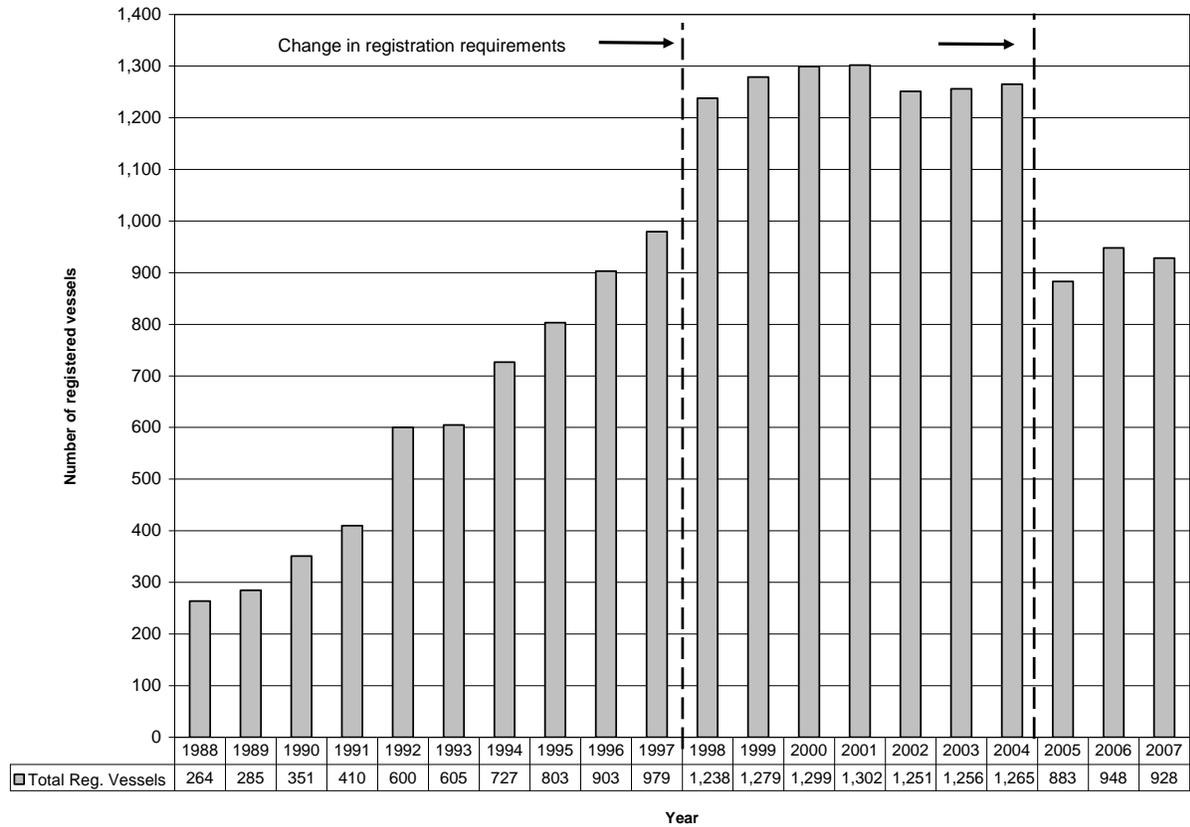
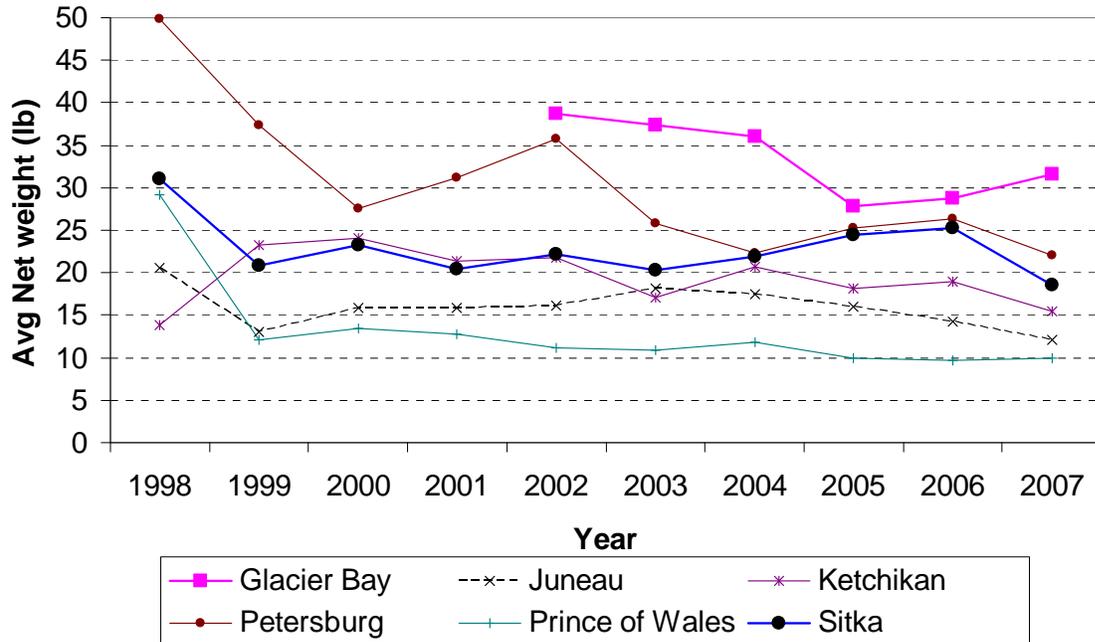


Figure 8. Number of charter vessels registering with the Alaska Department of Fish and Game (ADF&G) from 1988 to 1997, the Commercial Fishery Entry Commission from 1998 to 2004, and ADF&G in 2005 to 2007 for use in Southeast Alaska waters (including Yakutat).

Charter average halibut wt (lb) by area



Non-charter average halibut wt (lb) by area

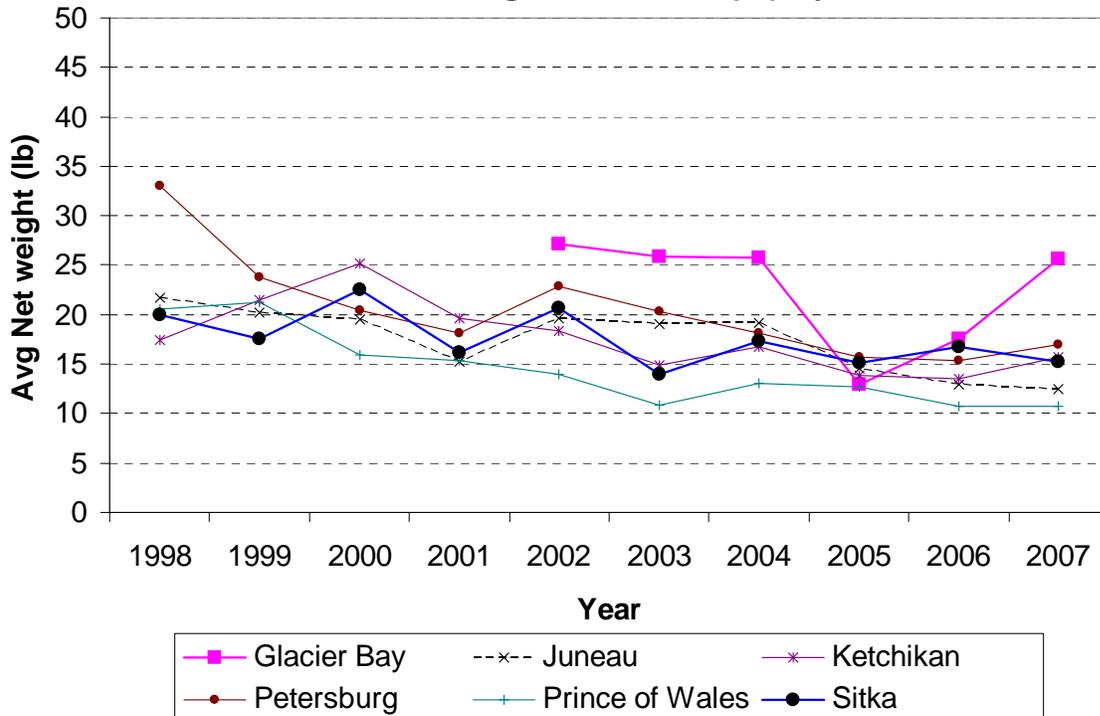


Figure 9.-Chartered and non-chartered historical trend of mean net weights (headed and eviscerated) of sport caught halibut in sampled IPHC Area 2C ports from 1998 to 2007.

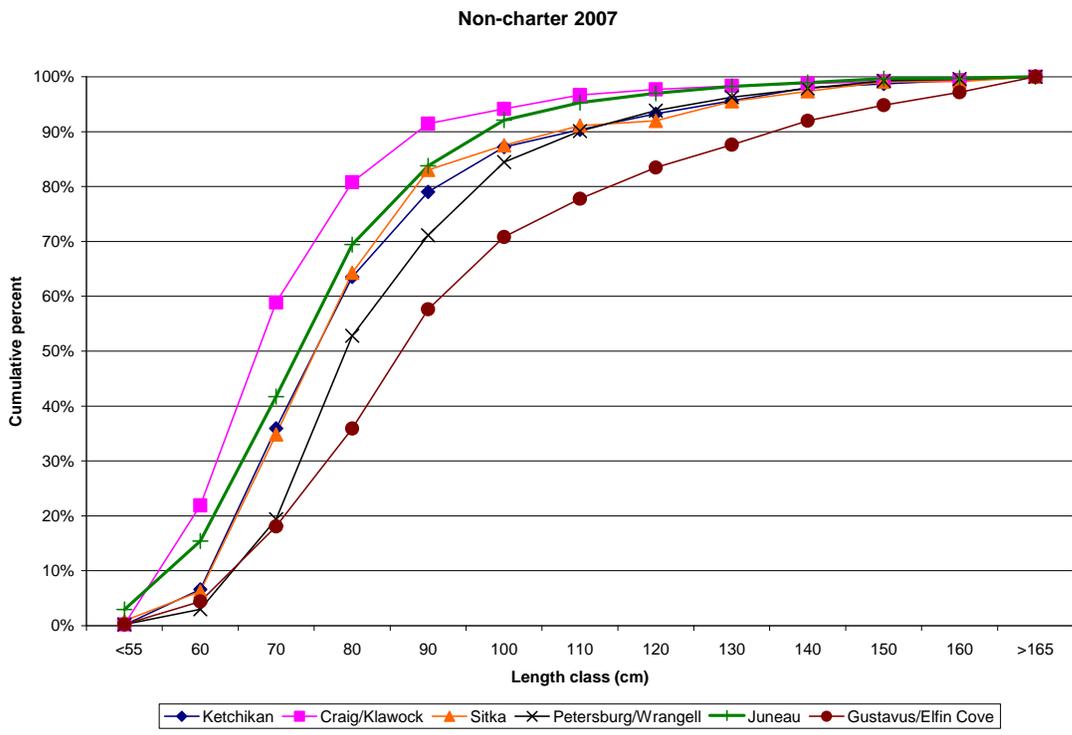
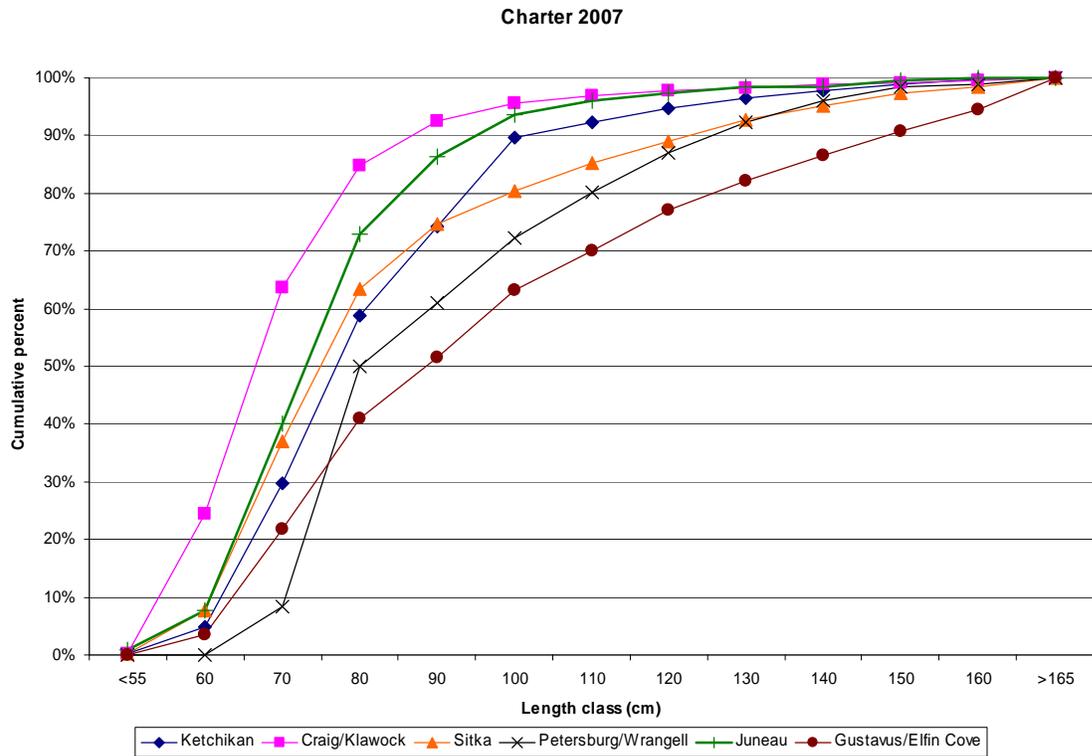


Figure 10.-Chartered and non-chartered cumulative length-frequencies of sport caught halibut sampled in IPHC Area 2C ports during 2007.

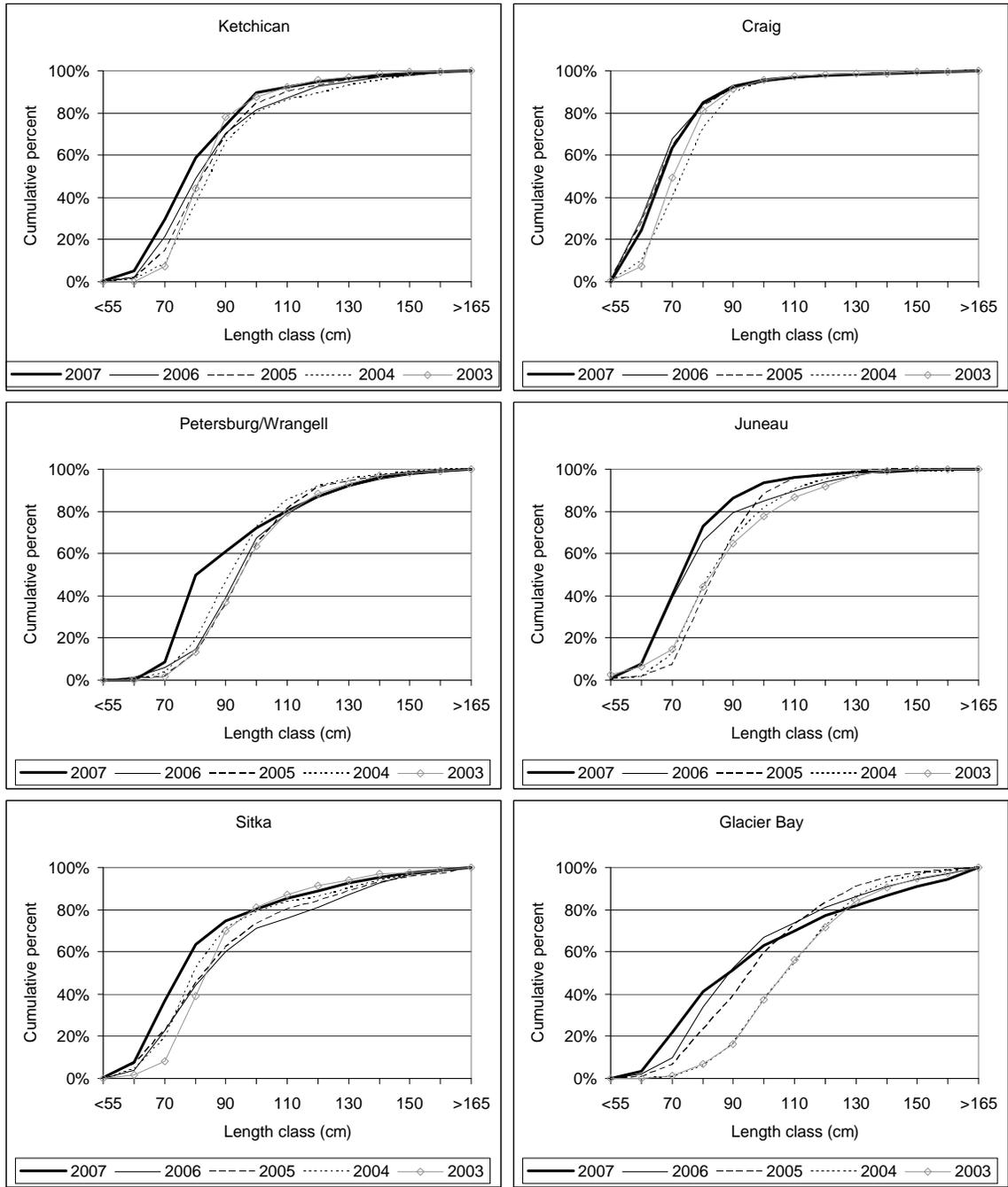


Figure 11. Comparison of cumulative length-frequencies of charter sport caught halibut sampled in IPHC Area 2C ports during 2003-2007.

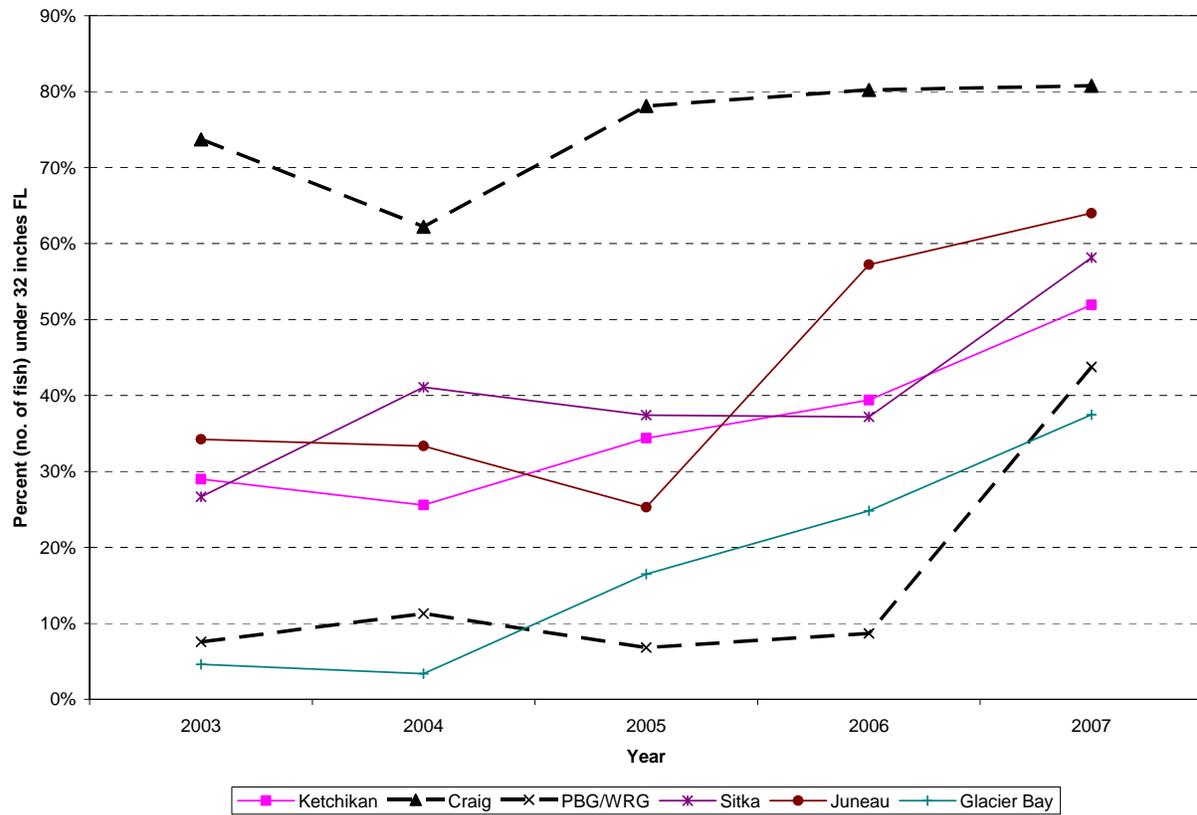


Figure 12. Summary of the percent of fish under 32 inches that were sampled from the charter angler harvest of halibut in IPHC Area 2C ports during 2003-2007.

Table 1.-Historical sport harvests of Pacific halibut in IPHC Area 2C (which excludes Yakutat) of Southeast Alaska from 1977 to 2006 as reported in the Statewide Harvest Mail Survey (modified from: Howe et al. 2002 a-d; Walker et al. 2003; Jennings et al. 2004; Jennings et al. 2006 a, b; Jennings et al. 2007; Jennings et al. *in prep a, b*).

Year	Area of Harvest							Total
	Ketchikan	Prince of Wales Island	Petersburg/ Wrangell	Sitka	Juneau	Haines/ Skagway	Glacier Bay	
1977	1,360	277	447	992	1,976	81	271	5,404
1978	751	230	1,103	339	3,066	448	170	6,107
1979	1,359	593	1,380	3,179	5,832	49	632	13,024
1980	5,260	1,085	3,193	4,976	9,333	361	620	24,828
1981	4,634	1,321	2,299	4,288	8,122	670	443	21,777
1982	5,963	2,242	3,845	6,330	16,988	650	744	36,762
1983	6,760	1,849	4,147	7,945	18,651	1,426	535	41,313
1984	11,719	2,724	5,649	8,197	15,618	2,029	748	46,684
1985	12,600	3,073	4,757	6,091	16,695	1,023	1,355	45,594
1986	11,014	2,902	3,624	6,617	16,574	2,189	1,331	44,251
1987	9,676	2,760	3,039	7,545	14,382	3,567	2,184	43,153
1988	11,544	2,778	3,877	10,572	18,697	3,201	4,238	54,907
1989	13,699	9,213	5,548	17,727	20,273	2,588	4,484	73,532
1990	9,872	10,264	5,768	17,492	16,248	1,972	3,415	65,031
1991	9,733	11,875	6,433	20,283	13,637	1,199	8,766	71,926
1992	9,455	11,661	6,153	22,092	14,850	926	4,863	70,000
1993	12,763	22,501	5,984	19,366	16,340	2,195	5,878	85,027
1994	15,313	24,465	7,992	23,701	10,362	1,058	5,849	88,740
1995	14,483	20,808	9,488	21,452	15,145	856	7,090	89,322
1996 ^a	15,316	23,266	10,234	20,840	16,414	1,209	7,618	94,897
1997 ^a	13,685	21,201	10,417	27,552	21,282	1,007	9,242	104,386
1998 ^a	11,311	24,028	8,995	30,303	14,553	564	7,190	96,944
1999	10,989	25,739	8,133	28,222	15,522	879	7,552	97,036
2000 ^b	13,665	28,860	9,930	28,375	16,672	499	13,639	111,640
2001	10,106	28,210	8,345	33,104	14,213	864	15,112	109,954
2002	10,766	30,960	6,742	25,156	15,647	1,220	14,322	104,813
2003	8,810	29,307	7,569	32,362	20,530	1,136	19,767	119,481
2004	19,938	31,081	12,149	39,505	19,544	863	24,236	147,316
2005	15,751	38,944	11,876	42,185	25,662	763	27,389	162,570
2006	14,538	36,267	15,801	39,408	14,643	905	19,429	140,991
Percent within region								
1977-2006 avg.	10,428	15,016	6,497	18,540	14,916	1,213	7,304	73,914
% 1977-2006 avg.	14%	20%	9%	25%	20%	2%	10%	100%
2001-2006 avg.	13,961	33,312	10,827	35,723	19,205	977	21,029	135,034
% 2001-2006 avg.	10%	25%	8%	26%	14%	1%	16%	100%
Percent difference between years								
1977-2005 avg.	10,286	14,283	6,176	17,820	14,925	1,224	6,886	71,601
2006 vs '77-'05 avg.	41%	154%	156%	121%	-2%	-26%	182%	97%
2001-2005 avg.	13,074	31,700	9,336	34,462	19,119	969	20,165	128,827
2006 vs '01-'05 avg.	11%	14%	69%	14%	-23%	-7%	-4%	9%

^a-SWHS estimates for 1996-1998 were revised by ADF&G/Div. of Sport Fish/RTS in September 2000.

^b-Glacier Bay boundary area enlarged to include all of Icy Strait and Cross Sound in 2000.

Table 2.-Total number of registered and active charter vessels by sampled ports as determined from on-site sampling in IPHC Area 2C from 2002 to 2007.

Port	Year	Survey period	No. registered vessels	Minimum no. active vessels ^b	% active	No. fished for bottomfish	% fished for bottomfish
Ketchikan	2002	4/29-9/29	220	86	39%	31	36%
	2003	4/28-9/28	227	95	42%	43	45%
	2004	4/26-9/26	216	97	45%	41	42%
	2005	4/25-9/25	155	99	64%	44	44%
	2006 ^c	4/24-10/08	170	105	62%	57	54%
	2007	4/23-9/23	180	96	53%	51	53%
Craig/ Klawock	2002	5/06-9/15	105	28	27%	25	89%
	2003	5/05-9/14	106	24	23%	20	83%
	2004	5/03-9/12	115	43	37%	28	65%
	2005	5/02-9/11	93	25	27%	23	92%
	2006	5/01-9/10	100	33	33%	26	79%
	2007	4/30-9/09	101	70	69%	56	80%
Sitka	2002	4/29-9/29	279	136	49%	118	87%
	2003	4/28-9/28	277	128	46%	109	85%
	2004	4/26-9/26	288	127	44%	104	82%
	2005	4/25-9/25	209	136	65%	123	90%
	2006	4/24-9/24	224	163	73%	130	80%
	2007	4/23-9/23	214	143	67%	117	82%
Petersburg	2002	5/06-7/07	59	12	20%	11	92%
	2003 ^d	5/07-9/14	52	13	25%	13	100%
	2004	5/03-9/12	55	14	25%	13	93%
	2005	4/27-9/11	31	15	48%	13	87%
	2006	4/24-9/10	36	15	42%	14	93%
	2007	4/23-9/09	40	13	33%	13	100%
Wrangell	2002	5/06-7/07	49	7	14%	3	43%
	2003 ^d	5/07-9/14	45	7	16%	5	71%
	2004	5/03-9/12	36	4	11%	2	50%
	2005	4/27-9/11	16	5	31%	4	80%
	2006	4/24-9/10	17	10	59%	9	90%
	2007	4/23-9/09	13	6	46%	6	100%
Juneau	2002	4/29-9/29	160	41	26%	20	49%
	2003	4/28-9/28	154	35	23%	16	46%
	2004	4/26-9/26	153	33	22%	16	48%
	2005	4/25-9/25	96	45	47%	27	60%
	2006	4/24-9/24	94	40	43%	23	58%
	2007	4/23-9/23	95	42	44%	20	48%
Gustavus	2002	6/03-9/15	29	24	83%	23	96%
	2003	5/05-9/14	29	22	76%	22	100%
	2004	5/10-9/12	32	22	69%	21	95%
	2005 ^b	5/04-9/18	30	22	73%	22	100%
	2006 ^b	5/08-9/24	29	24	83%	24	100%
	2007	5/07-9/07	30	27	90%	26	96%
Elfin Cove	2003	6/01-9/06	38	27	71%	26	96%
	2004	5/10-9/12	39	24	62%	24	100%
	2005	5/09-9/11	31	28	90%	28	100%
	2006	5/08-9/10	28	27	96%	26	96%
	2007 ^c	5/07-9/16	29	27	93%	26	96%
Totals	2002		901	334	37%	231	69%
	2003		928	351	38%	254	72%
	2004		934	364	39%	249	68%
	2005		661	375	57%	284	76%
	2006		698	417	60%	309	74%
	2007		702	424	60%	315	74%

^a Note changes in 1998-2004 and 2005-2007 registrations reflect changes in agency requirements and the resulting source database.

^b Number of vessels sampled by creel personnel with known CFEC or logbook numbers.

^c Sampling extended this year.

^d Sampling extended in Petersburg and Wrangell beginning in 2003.

Table 3.-Number of surveyed trips (including salmon fishing trips) per charter vessel by port and year, collected from on-site creel survey sampling in IPHC Area 2C from 2002 to 2007.

Port	Year	Survey period	Minimum no. active vessels ^b	No. of surveyed trips per vessel			Average
				1	2-4	>4	
Ketchikan	2002	4/29-9/29	86	14	18	55	7.8
	2003	4/28-9/28	95	18	18	59	6.9
	2004	4/26-9/26	97	20	30	47	5.7
	2005	4/25-9/25	99	18	15	66	7.7
	2006 ^c	4/24-10/08	105	25	24	56	5.8
	2007	4/23-9/23	96	24	22	50	5.7
Craig/ Klawock	2002	5/06-9/15	28	6	7	16	8.6
	2003	5/05-9/14	24	3	8	13	8.0
	2004	5/03-9/12	43	17	10	16	6.0
	2005	5/02-9/11	25	2	2	21	12.5
	2006	5/01-9/10	33	6	3	24	11.8
	2007	4/30-9/09	70	9	10	51	12.5
Sitka	2002	4/29-9/29	136	22	24	90	8.9
	2003	4/28-9/28	128	18	19	91	10.1
	2004	4/26-9/26	127	14	27	86	12.0
	2005	4/25-9/25	136	23	14	99	10.0
	2006	4/24-9/24	163	36	18	109	10.1
	2007	4/23-9/23	143	24	20	99	9.8
Petersburg	2002	5/06-7/07	12	4	2	6	6.2
	2003 ^d	5/07-9/14	13	2	2	9	13.5
	2004	5/03-9/12	14	2	3	9	13.9
	2005	4/27-9/11	15	4	1	11	9.5
	2006	4/24-9/10	15	4	4	7	8.3
	2007	4/23-9/09	13	3	1	9	16.0
Wrangell	2002	5/06-7/07	7	6	1	0	1.1
	2003 ^d	5/07-9/14	7	3	3	1	2.9
	2004	5/03-9/12	4	2	0	2	5.5
	2005	4/27-9/11	5	2	2	1	3.2
	2006	4/24-9/10	10	4	2	4	4.9
	2007	4/23-9/09	6	1	3	2	5.66
Juneau	2002	4/29-9/29	41	12	10	20	5.9
	2003	4/28-9/28	35	8	12	15	5.3
	2004	4/26-9/26	33	6	7	20	7.4
	2005	4/25-9/25	45	14	12	19	5.7
	2006	4/24-9/24	40	9	12	19	6.3
	2007	4/23-9/23	42	9	15	18	5.57
Gustavus	2002	6/03-9/15	24	3	3	19	22.4
	2003	5/05-9/14	22	3	1	19	34.4
	2004	5/10-9/12	22	2	2	18	30.6
	2005 ^b	5/04-9/18	22	2	1	19	31.3
	2006 ^b	5/08-9/24	24	2	2	20	31.1
	2007	5/07-9/07	27	3	2	22	29.17
Elfin Cove	2003	6/01-9/06	27	3	6	19	7.0
	2004	5/10-9/12	24	0	0	24	21.5
	2005	5/09-9/11	28	2	3	23	16.3
	2006	5/08-9/10	27	5	0	21	16.9
	2007 ^c	5/07-9/16	27	4	1	22	19.25
Totals	2002		334	67	65	206	8.7
	2003		351	58	69	226	10.0
	2004		364	63	79	222	11.0
	2005		375	67	50	259	10.7
	2006		417	91	65	260	10.3
	2007		424	77	74	273	11.0

^a Note changes in 1998-2004 and 2005-2007 registrations reflect changes in agency requirements and the resulting source database.

^b Number of vessels sampled by creel personnel with known CFEC or logbook numbers.

^c Sampling extended this year.

^d Sampling extended in Petersburg and Wrangell beginning in 2003.

Table 4.-Number of charter vessel trips surveyed during on-site sampling in IPHC Area 2C reported to be targeting bottomfish only, salmon only, or both bottomfish and salmon from 2002 to 2007.

Port	Year	Survey period	Total trips ^a	Bottomfish only		Both targets		Salmon only	
				No.	Percent	No.	Percent	No.	Percent
Ketchikan	2002	4/29-9/29	680 ^b	30	4%	55	8%	594	87%
	2003	4/28-9/28	659	56	9%	83	13%	520	79%
	2004	4/26-9/26	563 ^b	40	7%	46	8%	466	83%
	2005	4/25-9/25	760 ^b	132	17%	119	16%	483	64%
	2006 ^c	4/24-10/08	665 ^b	159	24%	70	11%	396	60%
	2007	4/23-9/23	646 ^b	151	23%	97	15%	369	57%
Craig/ Klawock	2002	5/06-9/15	248	7	3%	173	70%	68	27%
	2003	5/05-9/14	192 ^b	4	2%	103	54%	83	43%
	2004	5/03-9/12	259 ^b	16	6%	106	41%	136	53%
	2005	5/02-9/11	312 ^b	26	8%	92	29%	193	62%
	2006	5/01-9/10	390 ^b	23	6%	128	33%	217	56%
	2007	4/30-9/09	882 ^b	49	6%	279	32%	422	48%
Sitka	2002	4/29-9/29	1,211 ^b	68	6%	656	54%	480	40%
	2003	4/28-9/28	1,292 ^b	51	4%	759	59%	475	37%
	2004	4/26-9/26	1,518	89	6%	834	55%	595	39%
	2005	4/25-9/25	1,361 ^b	73	5%	833	61%	447	33%
	2006	4/24-9/24	1,670 ^b	46	3%	1051	63%	547	33%
	2007	4/23-9/23	1,402 ^b	50	4%	873	62%	478	34%
Petersburg	2002	5/06-7/07	74	45	61%	3	4%	26	35%
	2003 ^d	5/07-9/14	176	116	66%	14	8%	46	26%
	2004	5/03-9/12	203	134	66%	33	16%	36	18%
	2005	4/27-9/11	143	83	58%	31	22%	29	20%
	2006	4/24-9/10	128	73	57%	28	22%	27	21%
	2007	4/23-9/09	209	112	54%	55	26%	42	20%
Wrangell	2002	5/06-7/07	8	3	38%	0	0%	5	63%
	2003 ^d	5/07-9/14	20	3	15%	11	55%	6	30%
	2004	5/03-9/12	22	7	32%	7	32%	8	36%
	2005	4/27-9/11	16	3	19%	2	13%	11	69%
	2006	4/24-9/10	52	17	33%	12	23%	23	44%
	2007	4/23-9/09	38	11	29%	9	24%	18	47%
Juneau	2002	4/29-9/29	248	17	7%	15	6%	216	87%
	2003	4/28-9/28	184	22	12%	11	6%	151	82%
	2004	4/26-9/26	243	19	8%	18	7%	206	85%
	2005	4/25-9/25	258 ^b	15	6%	26	10%	211	82%
	2006	4/24-9/24	258 ^b	34	13%	22	9%	197	76%
	2007	4/23-9/23	237 ^b	19	8%	23	10%	194	82%
Gustavus	2002	6/03-9/15	560 ^b	183	33%	251	45%	117	21%
	2003	5/05-9/14	792 ^b	266	34%	375	47%	149	19%
	2004	5/10-9/12	674 ^b	197	29%	333	49%	138	20%
	2005 ^b	5/04-9/18	689 ^b	262	38%	320	46%	106	15%
	2006 ^b	5/08-9/24	752 ^b	403	54%	230	31%	116	15%
	2007	5/07-9/07	831 ^b	464	56%	261	31%	102	12%
Elfin Cove	2003	6/01-9/06	195 ^b	35	18%	141	72%	18	9%
	2004	5/10-9/12	516	84	16%	372	72%	60	12%
	2005	5/09-9/11	457	92	20%	320	70%	45	10%
	2006	5/08-9/10	468	87	19%	329	70%	52	11%
	2007 ^c	5/07-9/16	534	130	24%	354	66%	50	9%
Totals	2002		3,029	353	12%	1,153	38%	1,506	50%
	2003		3,510	553	16%	1,497	43%	1,448	41%
	2004		3,998	586	15%	1,749	44%	1,645	41%
	2005		3,996	686	17%	1,743	44%	1,525	38%
	2006		4,383	842	19%	1,870	43%	1,575	36%
	2007		4,779	986	21%	1,951	41%	1,675	35%

^a Number of trips sampled by creel personnel from vessels with known CFEC or logbook numbers.

^b Includes interviews where species target was not reported

^c Sampling extended this year.

^d Sampling extended in Petersburg and Wrangell beginning in 2003.

Table 5.-Estimated average length (cm) of Pacific halibut sampled during on-site surveys in IPHC Area 2C by non-chartered and chartered user groups from 2002 to 2007.

Port	Year	Survey period	Non-chartered average length			Chartered average length			Total overall sample size
			n	(cm)	SE	n	(cm)	SE	
Ketchikan	2002	4/29-9/29	411	88.8	1.4	1,428	95.1	0.6	1,839
	2003	4/28-9/28	264	85.3	1.1	169	89.6	1.3	433
	2004	4/26-9/26	466	87.1	1.0	489	94.2	0.9	955
	2005	4/25-9/25	388	82.4	1.0	355	90.8	1.0	743
	2006 ^a	4/24-10/08	919	82.3	0.6	736	90.6	0.8	1,655
	2007	4/23-9/23	757	85.2	0.8	364	85.9	1.0	1,121
Craig/ Klawock	2002	5/06-9/15	149	83.5	1.5	408	79.1	0.7	557
	2003	5/05-9/14	385	78.9	0.7	635	78.1	0.6	1,020
	2004	5/03-9/12	408	82.2	0.8	1,525	80.0	0.4	1,933
	2005	5/02-9/11	497	79.8	0.9	2,960	74.4	0.3	3,457
	2006	5/01-9/10	646	76.5	0.7	2,922	73.9	0.3	3,568
	2007	4/30-9/09	479	76.1	0.8	1,653	74.8	0.4	2,132
Sitka	2002	4/29-9/29	202	91.4	1.8	621	94.2	1.0	823
	2003	4/28-9/28	189	83.4	1.3	1,193	93.3	0.6	1,382
	2004	4/26-9/26	135	87.2	1.9	550	92.6	1.1	685
	2005	4/25-9/25	136	83.7	1.9	537	95.2	1.2	673
	2006	4/24-9/24	159	85.7	1.9	491	96.7	1.3	650
	2007	4/23-9/23	112	84.3	2.0	2,822	87.5	0.5	2,934
Petersburg/ Wrangell	2002	5/06-7/07	132	96.9	2.0	196	110.8	1.9	328
	2003 ^b	5/07-9/14	554	93.0	0.9	674	102.6	0.7	1,228
	2004	5/03-9/12	607	90.8	0.8	814	98.6	0.6	1,421
	2005	4/27-9/11	768	86.0	0.7	776	102.4	0.6	1,544
	2006	4/24-9/10	863	85.5	0.7	518	102.2	0.9	1,381
	2007	4/23-9/09	939	88.8	0.6	1,026	95.2	0.7	1,965
Juneau	2002	4/29-9/29	474	89.8	1.1	63	87.6	2.3	537
	2003	4/28-9/28	596	90.4	0.9	111	90.8	1.8	707
	2004	4/26-9/26	521	91.3	1.0	264	91.0	1.1	785
	2005	4/25-9/25	1,107	84.4	0.6	182	89.8	1.0	1,289
	2006	4/24-9/24	550	80.3	0.9	194	83.8	1.4	744
	2007	4/23-9/23	1,122	80.3	0.5	411	80.5	0.8	1,533
Gustavus/ Elfin Cove	2002 ^c	6/03-9/15	281	101.7	1.5	1,043	115.2	0.8	1,324
	2003	5/05-9/14	320	102.0	1.1	2,052	114.5	0.5	2,372
	2004	5/10-9/12	338	101.0	1.2	2,224	114.0	0.4	2,562
	2005 ^a	5/04-9/18	422	82.8	0.7	2,152	103.5	0.5	2,574
	2006 ^a	5/08-9/24	414	85.2	1.2	2,110	101.6	0.6	2,524
	2007	5/07-9/16	387	97.7	1.4	2,050	101.9	0.7	2,437
Totals	2002		1,649			3,759			5,408
	2003		2,308			4,834			7,142
	2004		2,475			5,866			8,341
	2005		3,318			6,962			10,280
	2006		3,551			6,971			10,522
	2007		3,901			9,277			13,178

^a Sampling extended this year.

^b Sampling extended in Petersburg and Wrangell beginning in 2003.

^c Gustavus samples only, sampling began in Elfin Cove in 2003.

Table 6.-Estimated average net weight (lb) for Pacific halibut sampled during on-site surveys in IPHC Area 2C by non-chartered and chartered user groups from 2002 to 2007.

Port	Year	Survey period	Non-chartered average net weight			Chartered average net weight			Total Overall Sample Size
			n	(lb)	SE	n	(lb)	SE	
Ketchikan	2002	4/29-9/29	411	18.4	1.0	1,428	21.8	0.6	1,839
	2003	4/28-9/28	264	14.9	1.0	169	17.1	1.5	433
	2004	4/26-9/26	466	16.8	0.9	489	20.7	0.9	955
	2005	4/25-9/25	388	13.8	0.7	355	18.2	0.9	743
	2006 ^a	4/24-10/08	919	13.5	0.5	736	18.9	0.8	1,655
	2007	4/23-9/23	757	15.7	0.7	364	15.5	0.8	1,121
Craig/ Klawock	2002	5/06-9/15	149	14.0	1.3	408	11.2	0.6	557
	2003	5/05-9/14	385	10.9	0.5	635	10.9	0.5	1,020
	2004	5/03-9/12	408	13.1	0.7	1,525	11.8	0.3	1,933
	2005	5/02-9/11	497	12.7	0.7	2,960	9.9	0.2	3,457
	2006	5/01-9/10	646	10.7	0.4	2,922	9.7	0.3	3,568
	2007	4/30-9/09	479	10.7	0.7	1,653	10.0	0.3	2,132
Sitka	2002	4/29-9/29	202	20.7	1.7	621	22.2	1.1	823
	2003	4/28-9/28	189	14.0	1.0	1,193	20.3	0.6	1,382
	2004	4/26-9/26	135	17.3	2.1	550	21.9	1.2	695
	2005	4/25-9/25	136	15.1	1.5	537	24.4	1.3	673
	2006	4/24-9/24	159	17.0	1.6	491	25.6	1.4	650
	2007	4/23-9/23	112	15.2	1.6	2,822	18.5	0.4	2,934
Petersburg / Wrangell	2002	5/06-7/07	132	22.9	1.7	196	35.8	2.7	328
	2003 ^b	5/07-9/14	554	20.3	0.9	674	25.8	0.7	1,228
	2004	5/03-9/12	607	18.1	0.6	814	22.3	0.5	1,421
	2005	4/27-9/11	768	15.7	0.6	776	25.3	0.6	1,544
	2006	4/24-9/10	863	15.4	0.6	518	26.4	1.1	1,381
	2007	4/23-9/09	939	17.0	0.5	1,026	22.0	0.7	1,965
Juneau	2002	4/29-9/29	474	19.6	1.1	63	16.1	1.8	537
	2003	4/28-9/28	596	19.1	0.9	111	18.1	1.3	707
	2004	4/26-9/26	521	19.2	0.9	264	17.5	0.9	785
	2005	4/25-9/25	1,107	14.6	0.4	182	16.0	0.6	1,289
	2006	4/24-9/24	550	13.0	0.6	194	14.4	0.9	744
	2007	4/23-9/23	1,122	12.5	0.4	411	12.1	0.6	1,533
Gustavus/ Elfin Cove	2002 ^c	6/03-9/15	281	27.1	1.5	1,043	38.7	0.9	1,324
	2003	5/05-9/14	320	25.9	1.1	2,052	37.3	0.6	2,372
	2004	5/10-9/12	338	25.8	1.2	2,224	36.0	0.5	2,562
	2005 ^a	5/04-9/18	422	12.9	0.5	2,152	27.8	0.5	2,574
	2006 ^a	5/08-9/24	414	17.5	1.4	2,110	28.8	0.7	2,524
	2007	5/07-9/16	387	25.6	1.4	2,050	31.6	0.8	2,437
Totals	2002		1,649			3,759			5,408
	2003		2,308			4,834			7,142
	2004		2,475			5,866			8,341
	2005		3,318			6,962			10,280
	2006		3,551			6,971			10,522
	2007		3,901			9,277			13,178

^a Sampling extended this year.

^b Sampling extended in Petersburg and Wrangell beginning in 2003.

^c Gustavus samples only, sampling began in Elfin Cove in 2003.

Table 7.– Length frequency distributions of Pacific halibut sampled in IPHC Area 2C ports by on-site surveys for charter and non-charter user groups during 2007.

	Length Interval (cm) ^a	Ketchikan		Craig/Klawock		Sitka		Petersburg/Wrangell		Juneau		Gustavus/Elfin Cove	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Charter	<55	1	(0)	3	(0)	9	(0)		(-)	4	(1)	1	(0)
	60	17	(5)	400	(24)	207	(7)		(-)	28	(7)	70	(3)
	70	90	(25)	650	(39)	829	(29)	86	(8)	133	(32)	377	(18)
	80	106	(29)	349	(21)	746	(26)	427	(42)	135	(33)	393	(19)
	90	56	(15)	129	(8)	314	(11)	114	(11)	55	(13)	214	(10)
	100	56	(15)	50	(3)	165	(6)	114	(11)	30	(7)	240	(12)
	110	10	(3)	22	(1)	135	(5)	81	(8)	10	(2)	143	(7)
	120	9	(2)	12	(1)	107	(4)	70	(7)	5	(1)	144	(7)
	130	6	(2)	8	(0)	102	(4)	55	(5)	5	(1)	102	(5)
	140	5	(1)	11	(1)	70	(2)	39	(4)		(-)	90	(4)
	150	4	(1)	4	(0)	63	(2)	24	(2)	4	(1)	88	(4)
	160	3	(1)	6	(0)	34	(1)	5	(0)	2	(0)	75	(4)
>165	1	(0)	9	(1)	41	(1)	11	(1)		(-)	113	(6)	
Totals		364	(100)	1,653	(100)	2,822	(100)	1,026	(100)	411	(100)	2,050	(100)
Non-charter	<55	1	(0)	1	(0)	1	(1)	2	(0)	33	(3)	1	(0)
	60	49	(6)	104	(22)	6	(5)	26	(3)	140	(12)	16	(4)
	70	222	(29)	177	(37)	32	(28)	154	(16)	295	(26)	53	(14)
	80	209	(28)	105	(22)	33	(29)	314	(33)	311	(28)	69	(18)
	90	117	(15)	51	(11)	21	(19)	172	(18)	161	(14)	84	(22)
	100	62	(8)	13	(3)	5	(4)	125	(13)	93	(8)	51	(13)
	110	24	(3)	12	(3)	4	(4)	53	(6)	36	(3)	27	(7)
	120	22	(3)	5	(1)	1	(1)	35	(4)	19	(2)	22	(6)
	130	18	(2)	3	(1)	4	(4)	23	(2)	14	(1)	16	(4)
	140	18	(2)	2	(0)	2	(2)	15	(2)	8	(1)	17	(4)
	150	5	(1)	2	(0)	2	(2)	13	(1)	8	(1)	11	(3)
	160	5	(1)	1	(0)		(-)	3	(0)	1	(0)	9	(2)
>165	5	(1)	3	(1)	1	(1)	4	(0)	3	(0)	11	(3)	
Totals		757	(100)	479	(100)	112	(100)	939	(100)	1,122	(100)	387	(100)

^a Length intervals are the midpoints of ranges for example 60 implies a range of 55-64 cm and 70 implies 65-74 cm.

Table 8.– Summary of harvested and sampled halibut, by whole or carcass, brought back to port by charter and non-charter anglers as indicated by on-site creel survey and catch sampling data at the various ports in IPHC Area 2C during 2007.

Port	Angler Type	Number of Halibut Observed On-site			Number Sampled On-site (creel and catch sampling)		Breakdown by sample status (whole or carcass)			
		Creel	Biological Sampler ^a	Total	Total Number of Halibut Sampled	Percent	Number Sampled as a Whole Fish	Percent	Number Sampled as a Carcass	Percent
Ketchikan	Non-charter	1,595			757		730	96%	27	4%
	Charter	898			364		348	96%	16	4%
	Combined	2,511 ^b	514 ^c	3,025	1,127	37%	1,084	96%	43	4%
Sitka	Non-charter	430			112		96	86%	16	14%
	Charter	4,180			2,822		1,037	37%	1,785	63%
	Combined	4,610	4,144	8,754	2,934	34%	1,133	39%	1,801	61%
Juneau	Non-charter	1,805			1,122		1,081	96%	10	1%
	Charter	260			411		411	100%	0	0%
	Combined	2,065	1,170	3,235	1,533 ^d	47%	1,492	97%	10	1%
Craig/ Klawock	Non-charter	989			479		471	98%	8	2%
	Charter	3,842			1,653		1,641	99%	11	1%
	Combined	4,831		4,831	2,132	44%	2,113	99%	19	1%
Petersburg/ Wrangell	Non-charter	1,261			939		923	98%	16	2%
	Charter	1,087			1,026		1,010	98%	16	2%
	Combined	2,348		2,348	1,965	84%	1,933	98%	32	2%
Gustavus/ Elfin Cove	Non-charter	839			387		385	99%	2	1%
	Charter	5,842			2,050		1,936	94%	114	6%
	Combined	6,681		6,681	2,437	36%	2,321	95%	116	5%
Total ^e	Non-charter	6,919			3,796		3,686	97%	79	2%
	Charter	16,109			8,326		6,384	77%	1,942	23%
	Combined	23,046		28,874	12,128	42%	10,076	83%	2,021	17%

^a The Biological Sampler only collects biological samples, and does not denote angler type; therefore, only combined totals are reported.

^b Eighteen halibut kept with unknown angler type.

^c Number of halibut encountered by catch sampler not recorded, only number of halibut sampled, therefore the % sampled is overestimated for Ketchikan

^d Includes 31 (3%) halibut with unknown sample status (whole or carcass).

^e Represents the regional totals and percentages based on the onsite interview data collected in Area 2C in 2007.