

NOAA Catch Share Performance Indicator Series

North Pacific

Halibut Individual Fishing Quota Program

NOAA Fisheries has developed standard indicators to measure the economic and biological performance of individual U.S. catch share programs over time. To calculate these metrics catch, effort, landings, revenue, share accumulation and cost recovery data are used.

Management History: The Halibut and Sablefish Individual Fishing Quota (IFQ) Program was developed by the North Pacific Fishery Management Council and implemented by NOAA Fisheries in 1995. It is managed under two different management authorities: The Northern Pacific Halibut Act (1937) and the Magnuson-Stevens Act (1976). Halibut and sablefish fisheries were not overfished prior to the implementation of the IFQ Program; however, the fisheries had been overcapitalized since the 1970s. The International Pacific Halibut Commission is responsible for the biological management of the halibut resource, including establishing the allowable catch limits. The North Pacific Fishery Management Council is responsible for allocating the U.S. catch limits among user groups.

Objectives: The primary objectives of the Alaska Halibut and Sablefish IFQ Program are to: (1) eliminate gear conflicts; (2) address safety concerns; and (3) improve product quality. A percentage of the Bering Sea and Aleutian Islands halibut and sablefish annual quota is allocated to the Community Development Quota (CDQ) Program. The trends provided herein refer to the non-CDQ portion of the Halibut IFQ Program; a separate fact sheet is available for Alaska Sablefish.

Key Management Events: Coincident with the implementation of the IFQ Program, there was a 21% reduction in halibut quota and a 33% decrease in halibut landings. Quota was reduced to stem the decline in halibut biomass. Halibut quota trended upward through the first half of the program, but this trend was reversed between 2005 and 2011. This decline is due to reduced halibut growth and birth rates. Halibut quota and landings were 36% and 38% lower in 2011 than in the Baseline Period*, respectively.

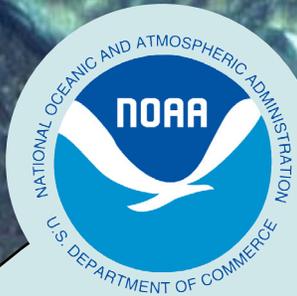
Performance Trends: The IFQ Program successfully ended derby fishing, which had led to unsafe fishing conditions. During the Baseline Period*, some areas were open to halibut fishing for as little as four days; under the IFQ Program, fishing has been allowed for an average of 250 days.** The number of entities holding halibut quota shares decreased during each year of the Halibut IFQ Program, resulting in a 42% decline from 1995 to 2011. Accordingly, capacity was reduced as there were 70% fewer vessels actively landing halibut in 2011 compared to the Baseline Period*.

Revenue and pricing information are presented in real terms (adjusted for inflation with the GDP 2010 index). Economic benefits, as measured by halibut revenue, rose during the first years of the Halibut IFQ Program. Over the course of the entire Program, halibut revenue increased by 109% relative to the Baseline Period*, reaching \$183.8 million in 2011.

Economic efficiency, as measured by halibut revenue per vessel, increased by 73% in the first year of the IFQ Program, from \$26,000 during the Baseline Period* to over \$44,000 in 1995. In 2011, revenue per vessel was about \$175,000, amounting to a more than 581% increase relative to the Baseline Period*.

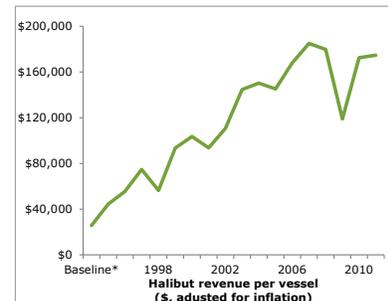
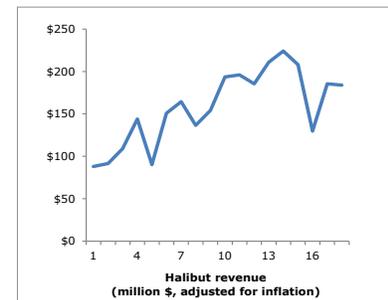
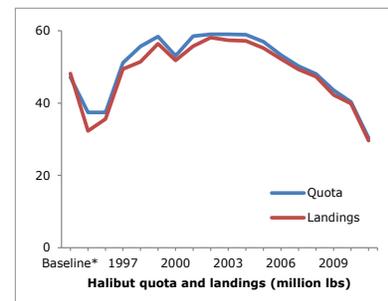
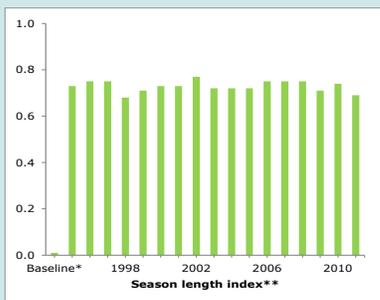
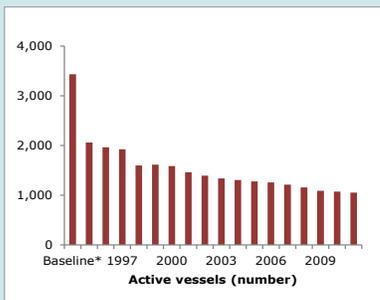
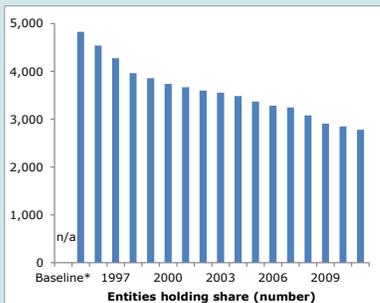
*Baseline Period refers to the average of three years prior to implementation of the Halibut and Sablefish IFQ Program (1992 - 1994).

**The Season Length Index (SLI, shown here) represents the proportion of days when fishing actually occurred compared to the maximum number of days when fishing was allowed. During the Baseline Period, the SLI was 0.01; under the IFQ Program, the SLI has ranged from 0.68 - 0.75.



NOAA FISHERIES

Science & Technology



For more information contact:

Ayeisha Brinson
ayeisha.brinson@noaa.gov

Eric Thunberg
eric.thunberg@noaa.gov

Share Caps: The purpose of share caps is to prevent individuals from controlling production and prices, as well as to achieve management objectives, per the Magnuson-Stevens Act and the National Standards. The quota share holding and use cap varies by area and ranges from 0.5-1.5% in the Halibut IFQ Program.

Catch Limits: There is no Annual Catch Limit defined for halibut because it is managed by the International Pacific Halibut Commission under the Halibut Act. The closest surrogate is the statewide catch limit for halibut. During the Baseline Period*, some area allocations were exceeded for halibut, although the statewide total was not exceeded. Since implementation of the IFQ Program, the commercial quota has not been exceeded.

Performance Trends (continued):

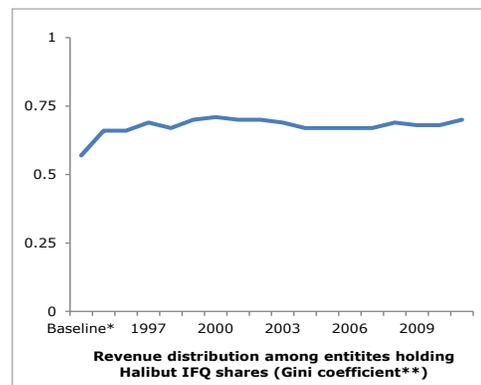
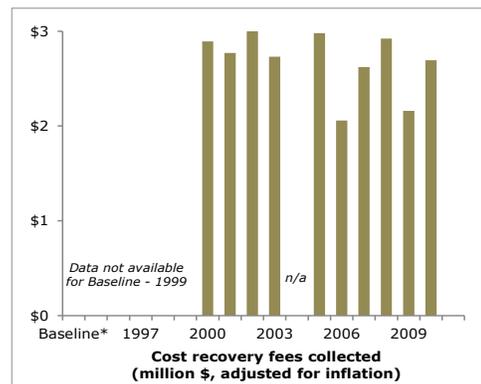
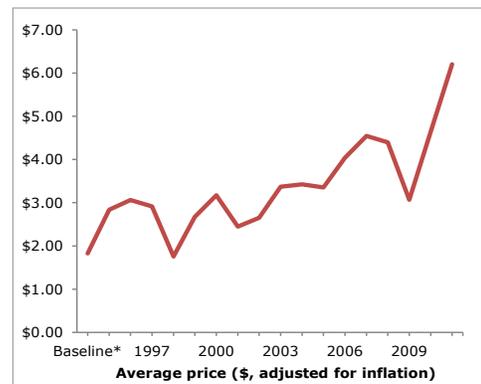
As the race to fish ended in the halibut fishery, halibut product quality greatly improved as fishermen no longer had to freeze excess catch. Instead, they began selling increased quantities of fresh halibut that received higher prices in the marketplace. The average price of halibut increased 55% during the first year of the Halibut IFQ Program, relative to the Baseline Period*. In 2011, the average price of halibut was 239% higher than average prices during the Baseline Period*.

Cost Recovery Fees: The Magnuson-Stevens Act authorizes the Secretary to recover the actual cost of managing and enforcing limited access privilege programs.

Cost recovery fee collection in the Halibut and Sablefish IFQ Program began in 2000. The cost recovery fee billed in the Halibut IFQ Program has varied from 1-2% of ex-vessel revenue over the course of the program. In 2011, the amount collected for cost recovery was 1.7% of Halibut IFQ Program revenue.

Revenue Distribution: The Gini coefficient measures the evenness of a distribution. Here, it measures the distribution of revenue among entities holding shares in the Halibut IFQ Program. A value of 0 indicates that all shareholders earn the same amount of revenue, while a value of 1 indicates that one shareholder earns all of the revenue.

Prior to implementation of the Halibut IFQ Program, the Gini coefficient was 0.57 during the Baseline Period*. The Gini coefficient increased slightly in the initial years of the program, but has remained relatively stable since 2000.



**0 = perfect equality; 1 = perfect inequality

For more detailed information on the Alaska Halibut and Sablefish IFQ Program, please visit: <http://www.alaskafisheries.noaa.gov/ram/ifqreports.htm>

More fact sheets can be found at: <http://www.st.nmfs.noaa.gov/economics/fisheries/commercial/catch-share-program/fact-sheets/index>

For more information on catch share programs: http://www.nmfs.noaa.gov/sfa/domes_fish/catchshare/index.htm

*Baseline Period refers to the average of the three years prior to implementation of the Halibut and Sablefish IFQ Program (1992 – 1994).

NOAA Catch Share Performance Indicator Series

North Pacific

Sablefish Individual Fishing Quota Program

NOAA Fisheries has developed standard indicators to measure the economic and biological performance of individual U.S. catch share programs over time. To calculate these metrics catch, effort, landings, revenue, share accumulation and cost recovery data are used.

Management History: In Alaska, the sablefish fishing fleet historically comprised a major foreign and a minor domestic fleet. Coincident with the exit of foreign harvesters in 1987, the domestic sablefish fleet grew rapidly. Conflicts among fleets that utilized different gears ensued and in 1987 the North Pacific Fishery Management Council began to consider proposals for limited entry regulations in the sablefish fishery. The regulatory amendments outlining Individual Fishing Quotas (IFQs) as a management tool for halibut and sablefish were published in 1992 and later implemented in 1995. Halibut and Sablefish are jointly managed by the Halibut and Sablefish IFQ Program.

Objectives: The primary objectives of the Alaska Halibut and Sablefish IFQ Program are to: (1) eliminate gear conflicts; (2) address safety concerns; and (3) improve product quality. A percentage of the halibut and sablefish annual quota is allocated to the Community Development Quota (CDQ) Program. The trends provided herein refer to the non-CDQ portion of the Sablefish IFQ Program; a separate fact sheet is available for Alaska Halibut.

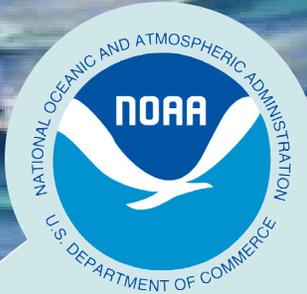
Key Management Events: Coincident with the implementation of the IFQ Program in 1995, there was a 5% reduction in sablefish quota and a 13% decrease in sablefish landings. Sablefish quota trended downward until 2000 when quota began to increase; this trend was reversed in 2003. Between 2003 and 2011, sablefish quota was reduced by 29% and landings fell by 29% as well. Sablefish quotas were reduced in response to highly variable sablefish growth and birth rates. Utilization of the available sablefish quota has fluctuated between 88-95% over the duration of the Sablefish IFQ Program.

Performance Trends: The IFQ Program successfully ended the race to fish. During the Baseline Period*, some areas were open to sablefish fishing for as little as 51 days; under the IFQ Program, fishing has been allowed for 240-262 days.** In the first year of the Sablefish IFQ Program, capacity, as measured by the number of active vessels landing sablefish decreased by 45% from 1,109 vessels during the Baseline Period* to 615 vessels in 1995. Two-thirds of the vessels landing sablefish during the Baseline Period* are no longer active in the Sablefish IFQ Program. Entities holding sablefish share decreased by 20% between the Baseline Period* and 2011.

Revenue and pricing information are presented in real terms (adjusted for inflation with the GDP 2010 index). Despite the decrease in commercial quota, economic benefits, as measured by sablefish revenue increased by 26% in 1995 when compared to the Baseline Period*, but subsequently declined by 34% from 1995 – 2009. In the last two years, sablefish revenue has increased by 51% to \$117 million in 2011 when compared to 2009.

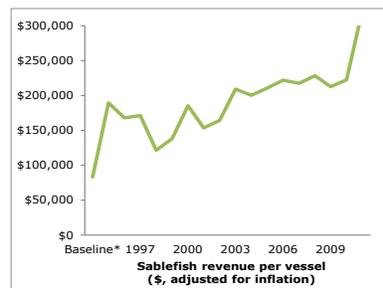
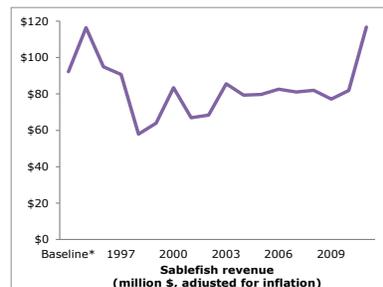
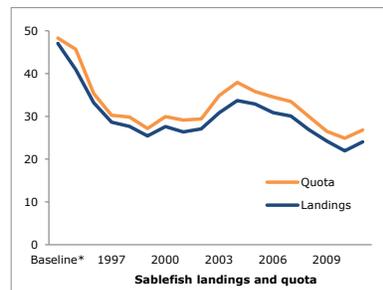
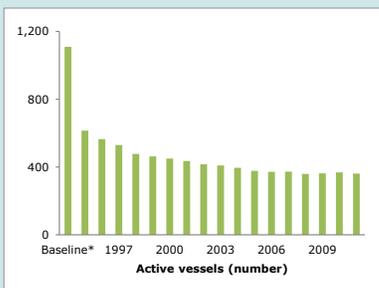
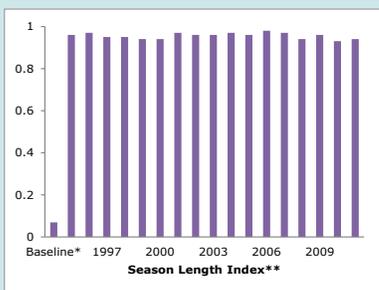
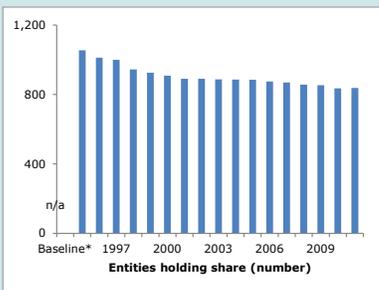
Economic efficiency, as measured by sablefish revenue per vessel, initially increased by 128% in 1995 (\$189,000) compared to the Baseline Period* (\$83,000). Over the course of the entire IFQ Program, sablefish revenue per vessel increased by 70% relative to the Baseline Period*; revenue per vessel was \$322,000 in 2011.

*Baseline Period refers to the average of the three years prior to implementation of the Halibut and Sablefish IFQ Program (1992 – 1994).
 ** The Season Length Index (SLI, shown here) represents the proportion of days when fishing actually occurred compared to the maximum number of days when fishing was allowed. During the Baseline Period, the SLI was 0.07; under the IFQ Program, the SLI has ranged from 0.93 - 0.98.



NOAA FISHERIES

Science & Technology



For more information contact:

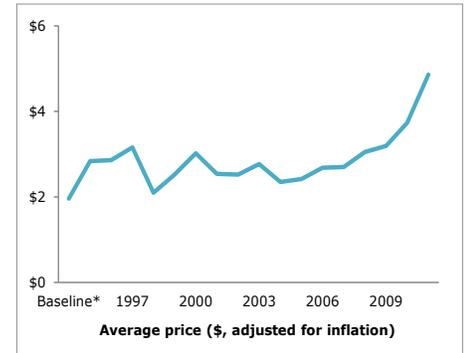
Ayeisha Brinson
ayeisha.brinson@noaa.gov

Eric Thunberg
eric.thunberg@noaa.gov

Share Caps: The purpose of quota share caps is to prevent individual shareholders from controlling production and prices, as well as to achieve management objectives, per the Magnuson-Stevens Act and the National Standards. The quota share holding and use cap is 1% for most management areas in the Sablefish IFQ Program.

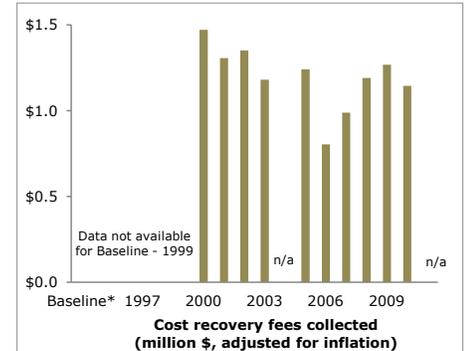
Catch Limits: Since the implementation of the Sablefish IFQ Program in 1995, the sablefish commercial quota has not been exceeded.

Performance trends (continued): Over the duration of the Sablefish IFQ Program, the average price per pound of sablefish greatly increased; the average price was more than 148% greater in 2011 (\$4.86 per pound) when compared to the Baseline Period* (\$1.96 per pound).



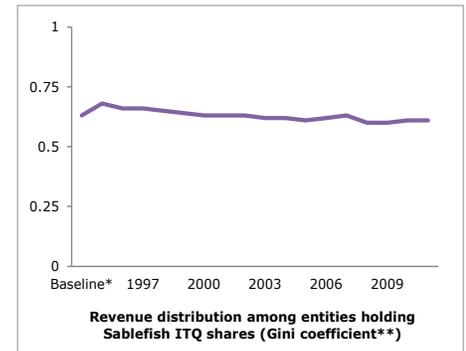
Cost Recovery Fees: The Magnuson-Stevens Act authorizes the Secretary to recover the actual cost of managing and enforcing limited access privilege programs.

Cost recovery fee collection in the Halibut and Sablefish IFQ Program began in 2000. The cost recovery fee billed in the sablefish portion of the IFQ Program has varied from 1-2% of total ex-vessel sablefish revenue. In 2011, the amount collected for cost recovery was 1.3% of Sablefish IFQ Program revenue.



Revenue Distribution: The Gini coefficient measures the evenness of a distribution. Here, it measures the distribution of revenue among entities holding quota shares in the Sablefish IFQ Program. A value of 0 indicates that all shareholders earn the same amount of revenue, while a value of 1 indicates that one shareholder earns all of the revenue.

Prior to implementation of the Sablefish IFQ Program, the Gini coefficient was 0.63 during the Baseline Period*. The Gini coefficient has remained fairly constant over the course of the program.



**0 = perfect equality; 1 = perfect inequality

For more detailed information on the Alaska Halibut and Sablefish IFQ Program, please visit: <http://www.alaskafisheries.noaa.gov/ram/ifqreports.htm>

More fact sheets can be found at: <http://www.st.nmfs.noaa.gov/economics/fisheries/commercial/catch-share-program/fact-sheets/index>

For more information on catch share programs: http://www.nmfs.noaa.gov/sfa/domes_fish/catchshare/index.htm

*Baseline Period refers to the average of the three years prior to implementation of the Halibut and Sablefish IFQ Program (1992 – 1994).

NOAA Catch Share Performance Indicator Series

North Pacific

American Fisheries Act Pollock Cooperatives



NOAA FISHERIES

Science & Technology

NOAA Fisheries has developed standard indicators to measure the economic performance of individual U.S. catch share programs over time. To calculate these metrics catch, effort, landings, revenue, share accumulation and cost recovery data are used.

Management History: The Pollock Cooperatives Program was established by the U.S. Congress under the American Fisheries Act (AFA) in 1998. This catch share program, referred to as the AFA Pollock Cooperatives Program, manages two allocations of Bering Sea and Aleutian Islands walleye pollock. Prior to implementation of the Program in 1998, the fishery was often closed after only two months in order to ensure that the fleet did not exceed harvest limits. While the pollock fishery was not overfished or experiencing overfishing, the short seasons often led to disputes between the inshore and offshore fleets. The AFA established participation requirements and authorized the formation of cooperatives.

Objectives: The objectives of the AFA Pollock Cooperatives Program were to settle allocation disputes between the inshore and offshore sectors and rationalize the fishery. The AFA defined three sectors – inshore, offshore and motherships – and listed those entities eligible for participation in each sector. Under the AFA Pollock Cooperatives Program, catcher/processors began operating under cooperatives in 1999, but catcher vessels and motherships did not begin operating under cooperatives until 2000. Other major components of the Act were minimum U.S. ownership requirements, a permit/vessel buyout, a list of vessels eligible to participate in the Program, processor eligibility requirements, the establishment of three harvest sectors (and their respective allocations) and allocations to the Community Development Quota Program.

Key Management Events: The combined catch of federally managed groundfish species in the Bering Sea and Aleutian Islands is limited to a 2 million metric ton cap, the maximum amount of groundfish production the ecosystem can sustain. Quota for AFA Pollock can fluctuate within this ecosystem cap.

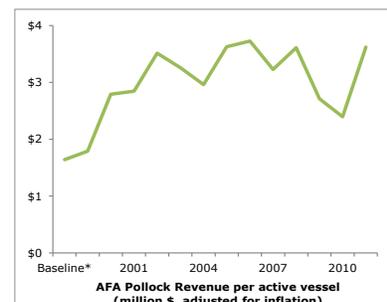
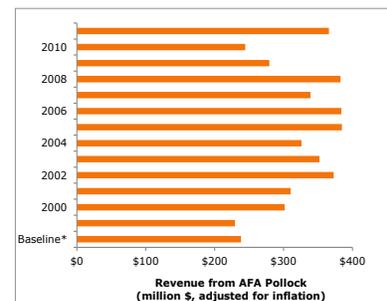
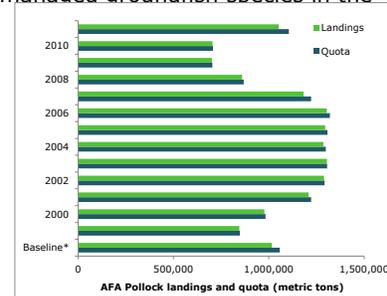
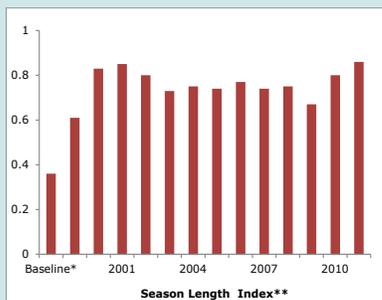
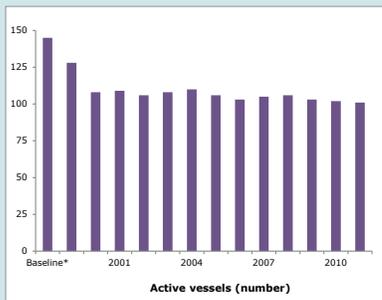
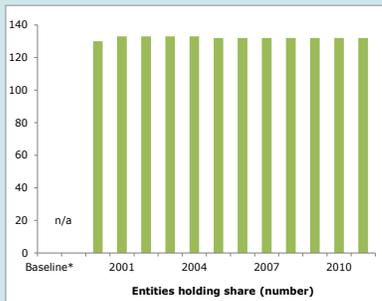
To prevent overfishing and remain within the ecosystem cap, the quota was reduced (by 20%) in the first year of the AFA Pollock Cooperatives Program relative to the Baseline Period*. Quota was generally increasing from 2000 onwards, until it was reduced in 2007 to 1.2 million mt. In 2011, quota increased to 1.1 million mt, a 5% increase over the Baseline Period*.

Performance Trends: Revenue and price information are presented in real terms (adjusted by the GDP deflator index for 2010). Upon implementation of the AFA Pollock Cooperatives Program, revenue initially decreased by 4% to \$229 million. Between 2000 and 2011, revenue fluctuated from a low of \$301 million in 2000 to a high of \$385 million in 2005.

The AFA Pollock Cooperatives Program successfully ended the race to fish, with season length doubling, and also steadily reduced capacity in the fishery from 145 active vessels during the Baseline Period* to 101 active vessels in 2011. Economic efficiency, measured here as revenue per vessel, also increased upon implementation of the AFA Pollock Cooperatives Program: revenue per vessel in 2011 is 121% greater than during the Baseline Period*.

*Baseline Period refers to the average of the three years prior to the implementation of the AFA Pollock Cooperatives Program (1996 - 1998).

**The Season Length Index (SLI, shown here) represents the proportion of days when fishing actually occurred compared to the maximum number of days when fishing was allowed.



For more information contact:

Ayeisha Brinson
ayeisha.brinson@noaa.gov

Eric Thunberg
eric.thunberg@noaa.gov

Cost Recovery Fees: The Magnuson-Stevens Act requires the Secretary to adopt regulations implementing a cost recovery program to recover the actual costs of managing limited access privilege programs.

The applicability of cost recovery fees to the American Fisheries Act Pollock Cooperatives Program is currently under review and development.

Catch Limits: The pollock catch limit was exceeded during the Baseline Period*, but since implementation of the AFA Cooperatives Program, catch limits have not been exceeded.

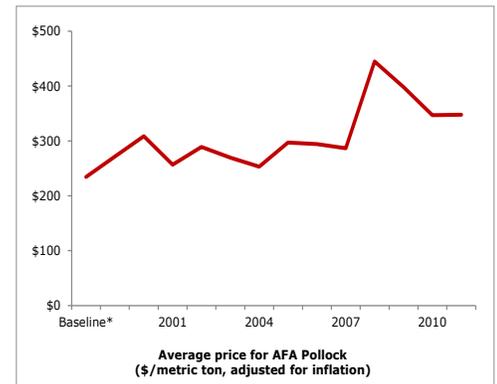
Share Caps: The purpose of excessive quota share caps is to prevent individual shareholders (or entities) from controlling production (and processing), as well as achieving management objectives, per the Magnuson-Stevens Act and the National Standards.

Excessive share caps have been established and no entity can harvest more than 17.5% or process more than 30% of the pollock directed fishery allocation.

Performance Trends (continued from previous page): Prior to implementation of the AFA Pollock Cooperatives Program, there were 145 active vessels. In the first year, the number of active vessels declined by 12% to 128 vessels. Over the course of the AFA Pollock Cooperatives Program, the number of active vessels decreased by 30% to 101 vessels in 2011.

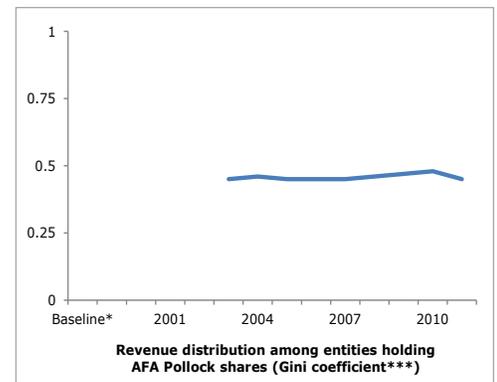
During the Baseline Period*, the regulations allowed 103 days of fishing and the Season Length** Index was 0.36. Upon implementation of the Program, fishing was allowed for 174 days and the Season Length Index** was 0.61. In 2000, utilization of the regulatory fishing season improved to 0.83. Between 2000 and 2011, the Season Length Index** was at a low of 0.67 in 2009 and a high of 0.86 in 2011.

The price for pollock was, on average, 20% higher during the first eight years of the catch share program (\$280 per metric ton), relative to the Baseline Period* (\$234 per metric ton). As quota fell between 2008 and 2010, the average price per metric ton of pollock increased sharply during this period (\$397 per metric ton or 69% greater than the Baseline Period*). The price for pollock was \$348 per metric ton in 2011.



Revenue Distribution: The Gini coefficient measures the evenness of a distribution. Here, it measures the distribution of revenue among entities holding shares in the AFA Pollock Cooperatives Program. A value of 0 indicates that all shareholders earn the same amount of revenue, while a value of 1 indicates that one shareholder earns all of the revenue.

The Gini coefficient for the AFA Pollock Cooperatives Program averaged 0.46 from 2003-2011. Data were not available for the Baseline Period* through 2002.



***0 = perfect equality; 1 = perfect inequality

For more detailed information on the American Fisheries Act Pollock Cooperatives, please visit: http://alaskafisheries.noaa.gov/sustainablefisheries/afa/afa_sf.htm

More fact sheets can be found at: <http://www.st.nmfs.noaa.gov/economics/fisheries/commercial/catch-share-program/fact-sheets/index>

For more information on catch share programs: http://www.nmfs.noaa.gov/sfa/domes_fish/catchshare/index.htm

*Baseline Period refers to the average of the three years prior to the implementation of the AFA Pollock Cooperatives Program (1996 - 1998).

**The Season Length Index (SLI, shown here) represents the proportion of days when fishing actually occurred compared to the maximum number of days when fishing was allowed.

NOAA Catch Share Performance Indicator Series

North Pacific

Bering Sea and Aleutian Islands Crab Rationalization Program

NOAA Fisheries has developed standard indicators to measure the economic performance of individual U.S. catch share programs over time. To calculate these metrics catch, effort, landings, revenue, share accumulation and cost recovery data are used.

Management History: Overcapacity in the Bering Sea and Aleutian Islands Crab Fishery led to a frenzied race for crab, with seasons in some fisheries lasting only five days. The resulting “derby fishery” led to unsafe fishing conditions and numerous fatalities for crew, particularly in winter months when most crab fisheries are prosecuted. Harvesting and processing capacity expanded to accommodate highly abbreviated seasons, leading to further economic inefficiencies.

Objectives: The North Pacific Fishery Management Council developed the Crab Rationalization Program over a six-year period. In 2005, the Crab Rationalization Program was implemented to address the race to harvest, high bycatch, discard mortality, product quality issues and balance the interests of those who depend on crab fisheries. The Crab Rationalization Program includes allocations of crab to the IFQ Program and to coastal community groups: Community Development Quota and the Adak Community Allocation. The Council was granted special Congressional authority to allocate processor quota in addition to harvesting quota. The information provided herein refers to the IFQ Program.

Key Management Events: The IFQ Program allocates crab quota to vessel owners, captains, and crew, with a portion of this allocation paired to processors holding quota. Coincident with the implementation of this program, the crab quota decreased by 42% to 57 million pounds in 2005/06. The quota was subsequently raised to 85 million pounds in 2007/08. Quota was reduced to rebuild two crab stocks and would have occurred regardless of whether the catch share program was implemented. The crab quota decreased 19% in 2009/10 based upon a stock assessment from the Alaska Department of Fish and Game, but was increased 6% in 2010/11 by 6% to 69 million pounds.

Performance Trends: This fishery opens on July 1 and ends June 30 of the following year. Annual data are for the fishing year, e.g., the 2006/07 fishing year. The revenue and pricing information are presented in real terms (adjusted for inflation with the GDP 2010 index).

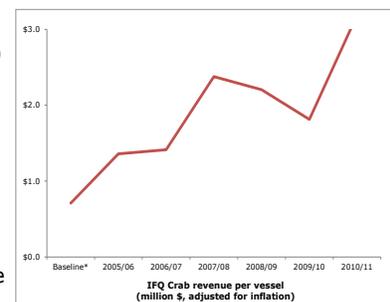
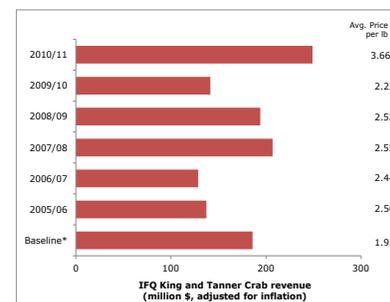
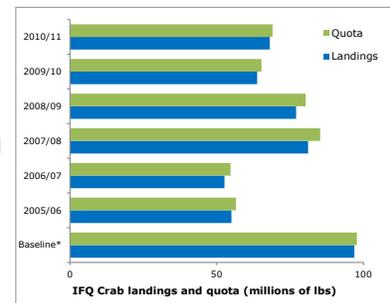
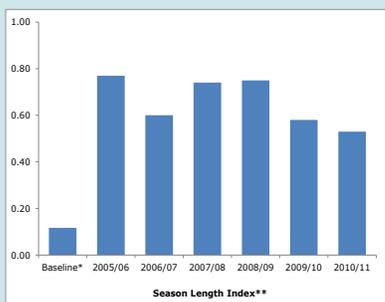
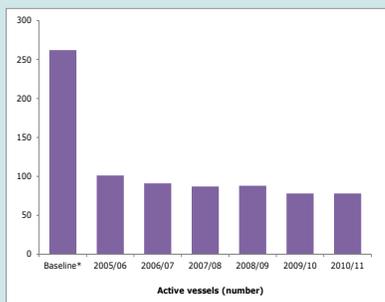
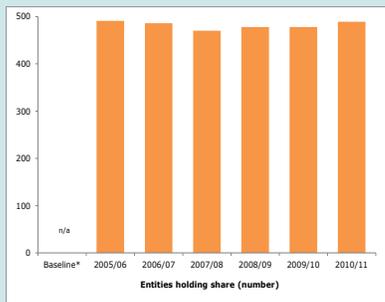
The IFQ Program successfully ended derby fishing, which had led to numerous fatalities. During the Baseline Period*, some areas were open to fishing for crab species for as little as five days; under the IFQ Program, the crab fisheries have been open an average of 192 days.** While the number of entities holding share has been fairly constant, the number of active vessels decreased significantly (-61%) in the first year of the IFQ Program. The continued decrease in active vessels from 2005/06 to 2010/11 (-23%) is a result of economically inefficient vessels leaving the fishery as well as the extensive use of harvesting cooperatives.

Economic benefit trends, measured here as landings revenue, generally followed quota trends. Accordingly, with the quota increase in 2010/11, landings revenue increased 76% to \$250 million relative to the previous year. In contrast, economic efficiency, as measured by revenue per vessel, improved almost every year under the IFQ Program and is currently 350% greater than the Baseline Period*.



NOAA FISHERIES

Science & Technology



For more information contact:

Ayeisha Brinson
ayeisha.brinson@noaa.gov

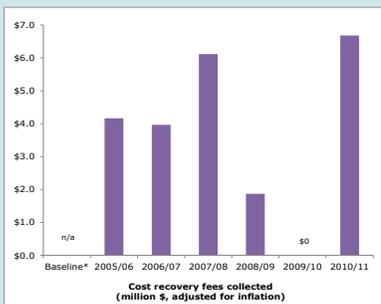
Eric Thunberg
eric.thunberg@noaa.gov

*Baseline Period refers to the average of fishing years 1998/1999, 2001/2002 and 2004/2005, as determined by the N. Pacific Fishery Management Council.

** The Season Length Index (SLI, shown here) represents the proportion of days when fishing actually occurred compared to the maximum number of days when fishing was allowed. During the Baseline Period, the SLI was 0.12; under the IFQ Program, the SLI has ranged from 0.6 - 0.7.

Cost Recovery Fees: The Magnuson-Stevens Act authorizes the Secretary to adopt regulations to recover the actual cost of managing and enforcing limited access privilege programs.

The cost recovery fee for the IFQ Crab Program varies each year because of the regulatory formula used prior to the start of the fishing season, making it possible to have years in which no fees are collected (e.g. 2009/10). In 2011, the amount collected for cost recovery was 2.7% of Crab IFQ Program revenue.



Share Caps: The purpose of share caps is to prevent individuals from controlling production and prices, as well as to achieve management objectives, per the Magnuson-Stevens Act and the National Standards.

The Crab IFQ Program has share caps in place for all harvest and processor quota share holders:

- The cap varies from 1-20% of initial harvest quota share based on fishery or area, quota type, and entity type for vessel owners.
- The cap varies from 2-20% of initial harvest quota share for crew shares.
- Processors may not hold or use more than 30% of processor shares for each fishery.

Catch Limits: Prior to the catch share program, harvest limits were exceeded for Bristol Bay red king crab, Bering Sea snow crab, and Aleutian Islands golden king crab fisheries.

Following implementation of the catch share program, catch limits have not been exceeded for any of the crab stocks.

Total Revenue: In the first year of the Crab IFQ Program, IFQ crab revenue decreased by 26% compared to the Baseline Period* (and there was also a 42% decrease in quota). Revenue subsequently increased in year 3 (2007/08) and 4 (2008/09) to exceed revenue from the Baseline Period*. However, the Crab IFQ revenue was greatest in 2010/11, \$250 million. Over the course of the IFQ Program, non-IFQ crab revenue was greatest in 2005/06 (\$15 million) and was \$8-10 million until 2010/11, when non-IFQ crab revenue was \$12 million.

Total revenue per vessel and total revenue per trip: Total revenue per vessel was steadily increasing until 2007/08, when total revenue per vessel began to decrease for the next two years (-7% in 2008/09 and -17% in 2009/10) when compared to the previous years. In 2010/11, total revenue per vessel increased by 75% when compared to the previous year. This was due to the drastic increase (+76%) in IFQ Crab Revenue, a moderate increase (+50%) in Non-IFQ Crab Revenue, combined with a stable number of active vessels in 2010/11, when compared to the previous year. The same trend is apparent for total revenue per trip. IFQ Crab Revenue, Non-IFQ Crab Revenue and the number of trips also increased (by 6%) in 2010/11 when compared to the previous year.

Revenue Distribution: The Gini coefficient measures the evenness of a distribution. Here, it measures the distribution of revenue among entities holding shares in the Crab Rationalization Program. A value of 0 indicates that all shareholders earn the same amount of revenue, while a value of 1 indicates that one shareholder earns all of the revenue.

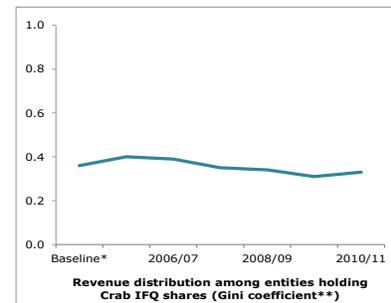
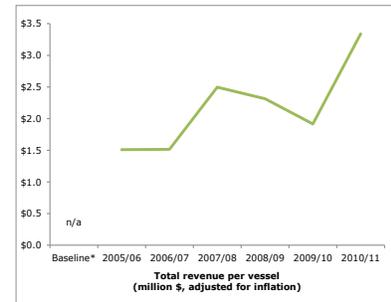
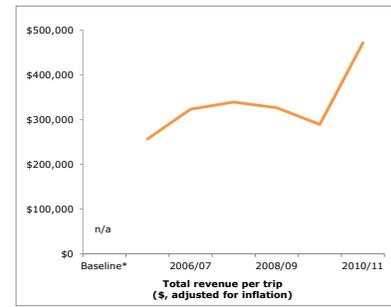
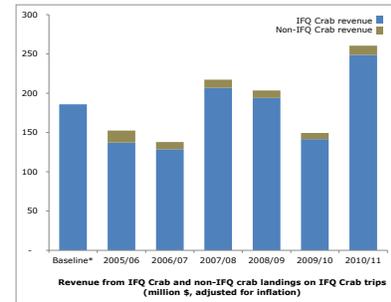
Prior to implementation of the Bering Sea and Aleutian Islands Crab Rationalization Program, the Gini coefficient was 0.36 during the Baseline Period*. Over the duration of the program, the Gini coefficient was the greatest in 2005/06 at 0.40 and the least in 2009/10 at 0.31. In the most recent year, 2010/11, the Gini coefficient was 0.33.

For more detailed information on the Bering Sea and Aleutian Islands Crab IFQ Program, please visit: <http://www.alaskafisheries.noaa.gov/ram/crab/1011crabrpt.pdf>

More fact sheets can be found at: <http://www.st.nmfs.noaa.gov/economics/fisheries/commercial/catch-share-program/fact-sheets/index>

For more information on catch share programs: http://www.nmfs.noaa.gov/sfa/domes_fish/catchshare/index.htm

*Baseline Period refers to the average of fishing years 1998/1999, 2001/2002 and 2004/2005, as determined by the N. Pacific Fishery Management Council.



**0 = perfect equality; 1 = perfect inequality

NOAA Catch Share Performance Indicator Series

North Pacific

Non-Pollock Trawl Catcher/Processor Groundfish Cooperatives (Amendment 80)

NOAA Fisheries developed standard indicators to measure the economic performance of individual U.S. catch share programs over time. To calculate these metrics catch, effort, landings, revenue, share accumulation and cost recovery data are used.

Management History: Prior to implementation of the Non-Pollock Trawl Catcher/Processor Groundfish Cooperatives (Amendment 80) Program, discards and bycatch were concerns in this fishery because lower valued and smaller flatfish were often discarded at sea. The race for fish increased discarding as only the higher-valued species were retained. The North Pacific Fishery Management Council began developing cooperatives as a mechanism to increase retention of all fish species. The Non-Pollock Trawl Catcher/Processor Groundfish Cooperatives Program was developed and implemented by the North Pacific Council in 2008 as Amendment 80 to the Bering Sea and Aleutian Islands Groundfish Fishery Management Plan.

Objectives: The goal of the Amendment 80 Program was to create economic incentives to improve retention of all fish caught and reduce bycatch by commercial fishing vessels using trawl gear in the non-pollock groundfish fisheries. Amendment 80 allocates portions of quota for six species: Atka mackerel, Pacific cod, Pacific Ocean perch and three species of flatfish. There are also limits outside of the Bering Sea and Aleutian Islands for groundfish and prohibited species catch sideboards.

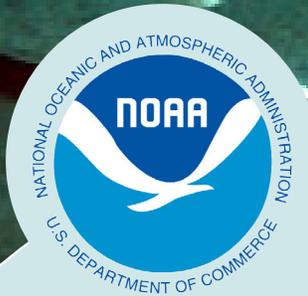
Key Management Events: The combined catch of federally managed groundfish species in the Bering Sea and Aleutian Islands is limited to a 2 million metric ton cap, the maximum amount of groundfish production the ecosystem can sustain. The majority of this cap is allocated to the American Fisheries Act Pollock Cooperatives Program; in years of low pollock abundance, the quota allocated to the Amendment 80 Program can be increased. Quota utilization rates have been low in recent years because quota increased from 2008 through 2010.

Performance Trends: Both capacity (measured by the number of active vessels) and the number of shareholders has remained constant throughout the history of the Amendment 80 Program.

The revenue and price data are presented in real terms (adjusted by the GDP deflator index for 2010). Economic benefits, as measured by revenue from non-pollock catcher/processors, increased (by 5%) in the first year of the Amendment 80 Program. Revenue then decreased to a low of \$206 million in 2009, but has been steadily increasing since then. Revenue in 2011 was \$281 million, a 20% increase over the Baseline Period*.

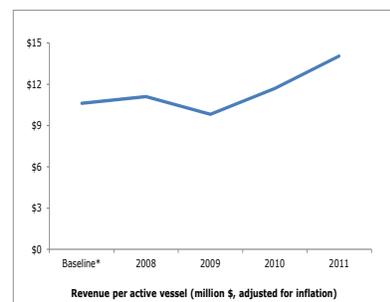
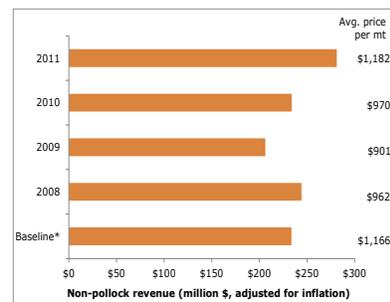
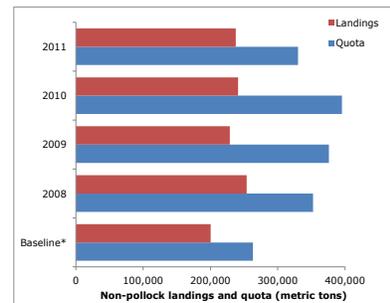
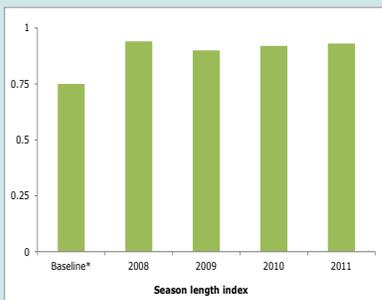
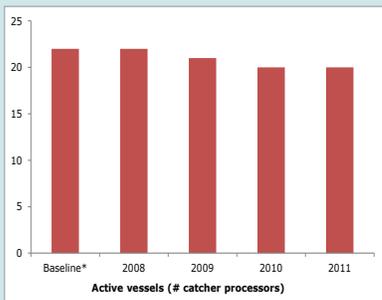
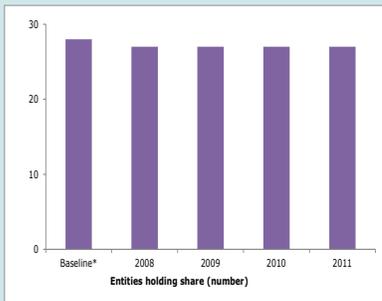
Economic efficiency, measured here as revenue per vessel, followed a similar trend as revenue. Initially, revenue per vessel increased (by 5%) in 2008, relative to the Baseline Period*, followed by a decrease in 2009 (-12%) and increases in 2010 (19%) and 2011 (20%), relative to the previous year. Despite the fluctuation in revenue per vessel, revenue per vessel is 32% greater in 2011 than during the Baseline Period*.

*Baseline Period refers to the average of the three years prior to implementation of the Non-Pollock Trawl Catcher/Processor Groundfish Cooperatives (Amendment 80) Program (2005 - 2007).



NOAA FISHERIES

Science & Technology



For more information contact:

Ayeisha Brinson
ayeisha.brinson@noaa.gov

Eric Thunberg
eric.thunberg@noaa.gov

Cost Recovery Fees: The Magnuson-Stevens Act requires the Secretary to adopt regulations implementing a cost recovery program to recover the actual cost of managing limited access privilege programs.

The applicability of cost recovery fees to the Amendment 80 Program is currently under review and development.

Share Caps: The purpose of quota share caps is to prevent individual shareholders from controlling production and prices, as well as to achieve management objectives, per the Magnuson-Stevens Act and the National Standards.

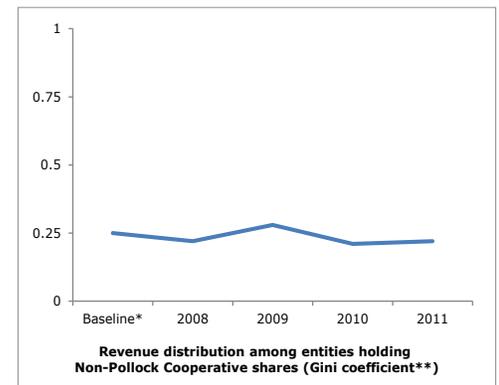
A person may not individually or collectively hold or use more than 30% of the aggregate Amendment 80 quota share.

An Amendment 80 vessel may not catch more than 20% of the catcher/processor quota assigned to the Amendment 80 sector.

Performance Trends (continued from previous page): The season length index is equal to the number of active days (defined as any day when 1 or more vessel fished) divided by the regulatory season length. During the Baseline Period*, fishing was allowed for Amendment 80 species for 346 days and the season length index was 0.75. Upon implementation of the Amendment 80 Program, the regulatory season length did not vary from 346 days. The season length index fluctuated between 0.90 – 0.94 over the course of the Amendment 80 Program.

Average prices for the Amendment 80 species were \$1,166 per metric ton in the Baseline Period* and decreased to a low of \$901 per metric ton in 2009. Despite some fluctuations, average prices were nearly the same in 2011 (\$1,182) when compared to the Baseline Period*.

Revenue Distribution: The Gini coefficient measures the evenness of a distribution. Here, it measures the distribution of revenue among entities holding shares in the Non-Pollock Trawl Catcher/Processor Groundfish Cooperatives (Amendment 80) Program. A value of 0 indicates that all shareholders earn the same amount of revenue, while a value of 1 indicates that one shareholder earns all of the revenue.



**0 = perfect equality; 1 = perfect inequality

The Gini coefficient has remained fairly constant throughout the Program. The Gini coefficient was 0.25 during the Baseline Period*, slightly increased to 0.28 in 2009, then decreased to 0.22 in 2011.

Catch Limits: The Annual Catch Limit (ACL) was not exceeded during the Baseline Period*, or in any subsequent year.

Other Trends: In the first year of the catch share program, discards were reduced by 52%, relative to the Baseline Period*.

For more detailed information on the Amendment 80 Program, please visit: <http://www.alaskafisheries.noaa.gov/sustainablefisheries/amds/80/default.htm>

More fact sheets can be found at: <http://www.st.nmfs.noaa.gov/economics/fisheries/commercial/catch-share-program/fact-sheets/index>

For more information on catch share programs: http://www.nmfs.noaa.gov/sfa/domes_fish/catchshare/index.htm

*Baseline Period refers to the average of the three years prior to implementation of the Non-Pollock Trawl Catcher/Processor Groundfish Cooperatives (Amendment 80) Program (2005 - 2007).