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Report for Fishing Year 2010 on the Performance of the Northeast Multispecies (Groundfish) Fishery (May 2010 – April 2011)

by Andrew Kitts, Evan Bing-Sawyer, Matthew McPherson, Julia Olson,
and John Walden

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EXECUTIVE SUMMARY

This report provides an evaluation of the economic and social performance of active limited access Northeast groundfish vessels for the 2010 fishing year (May 2010 through April 2011) and updates results contained in the Interim Report for Fishing Year 2010 on the Performance of the Northeast Multispecies (Groundfish) Fishery (May 2010 – January 2011)¹. The analyses (Table 1) revealed some notable changes in the fishery between 2007 and 2010; some of these are recent, while others reflect ongoing trends.

Three clear changes were evident in 2010 compared with the 2007, 2008 and 2009 fishing years. Combined yearly average prices for all species were higher in 2010 than any other year in the time series. Even though groundfish gross revenues continued to decline in 2010, higher prices resulted in 2010 gross revenues from all species landed being higher than in 2008 or 2009, and nearly equal to 2007. Economic performance, as indicated by gross revenue per unit effort, improved in 2010.

Other performance measures indicated the continuation of existing trends into 2010.

Some of these trends are downward. Since 2008, landings of both groundfish and non-groundfish species have declined by about 14%. Several measures of fishing activity and effort also continued to decline in 2010: there were 17% fewer active vessels in 2010 than in 2007, 48% fewer groundfish trips, 33% fewer days absent on groundfish trips, and fewer crew positions, days, and trips.

Other indicators showed increasing trends. The number of non-groundfish trips increased somewhat (2%) between 2007 and 2010. There has also been an increasing concentration of groundfish gross revenues among top earning vessels, as gross revenues have become consolidated on fewer vessels. About 68% of gross revenues from groundfish sales during 2007-2009 resulted from landings by 20% of active groundfish vessels. In 2010, 20% of vessels accounted for about 80% of the gross revenues from groundfish sales.

Limited access Common Pool and Sector performance was compared using some of the performance indicators. However, this comparison is not useful for evaluating the relative performance of DAS and Sector-based management because of fundamental differences between these groups of vessels which were not accounted for in the analyses. All measures of gross revenue per trip and per day absent in 2010 were higher for the average Sector vessel and lower for the average Common Pool vessel. In addition, many, but not all, of the overall averages for 2010 are higher than those in 2007-2009.

The evaluation conducted did not examine: (a) the costs associated with joining a sector; (b) vessel operating costs; (c) the effects of annual catch entitlements trading; and (d) changes in ownership patterns. An expanded version of this report scheduled to be released in the Fall of 2011 will include analyses of these factors.

¹ Kitts A, Bing-Sawyer E, McPherson M, Olson J, Walden J. 2011. Interim Report for Fishing Year 2010 on the Performance of the Northeast Multispecies (Groundfish) Fishery (May 2010 – January 2011). US Dept Commer, Northeast Fish Sci Cent Ref Doc. 11- 07; 41 p. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026, or online at <http://www.nefsc.noaa.gov/nefsc/publications/>

Table 1. Summary of major trends (includes all vessels with a valid limited access multispecies permit).

	2007	2008	2009	2010		
				Total	Sector Vessels	Common Pool
Groundfish						
Gross revenue	\$89,055,085	\$90,131,938	\$85,088,241	\$83,293,667	\$81,025,594	\$2,268,073
Non-Groundfish						
Gross revenue	\$209,191,370	\$201,347,322	\$186,051,595	\$214,426,203	\$117,238,604	\$97,187,599
Total Gross revenue	\$298,246,455	\$291,479,260	\$271,139,836	\$297,719,870	\$198,264,198	\$99,455,672
Groundfish average price	\$1.43/lb	\$1.28/lb	\$1.23/lb	\$1.44/lb		
Non-groundfish average price	\$1.11/lb	\$1.01/lb	\$1.00/lb	\$1.20/lb		
Number of vessels with gross revenue from any species	1,082	1,012	973	900	444	456
Number of vessels with gross revenue from at least one groundfish trip	658	611	566	450	305	145
Number of groundfish trips	27,004	26,468	26,032	14,045	11,770	2,275
Number of non-groundfish trips	46,635	46,721	46,815	47,539	20,061	27,478
Number of days absent on groundfish trips	28,158	27,146	24,947	18,818	17,216	1,602
Number of days absent on non-groundfish trips	35,186	36,134	36,397	35,220	17,785	17,435
Total Crew Positions	2,687	2,544	2,442	2,277		
Total Crew-Trips	151,747	144,413	144,730	126,583		
Total Crew-days	199,593	192,422	186,944	169,580		

1. INTRODUCTION

On 1 May 2010, a new management program—Amendment 16 to the Northeast Multispecies Fishery Management Plan (FMP)—was implemented for the New England groundfish fishery, designed to comply with catch limit requirements and stock rebuilding deadlines required under the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (MSA). The new groundfish management program contained two significant changes. The first consisted of “hard quota” annual catch limits (ACLs) for all of the 20 stocks in the groundfish complex. The second expanded the use of Sectors, a type of catch share program whereby groups of fishing vessels are each allotted a share (quota) of the total groundfish ACL (Sectors are allocated a subdivisions of ACLs called Annual Catch Entitlements (ACE)). Sectors received ACE for nine of 14 groundfish species in the FMP and became exempt from many of the effort controls.

Seventeen Sectors operated in 2010². Each Sector established its own rules for using its allocations, but the allocated catch restrictions are applicable to the Sector as a unit (i.e., not to individual vessels in the Sector). Limited access vessels that joined Sectors were allocated 98% of the total ACE, based on their collective level of historical activity in the groundfish fishery. Approximately half (46%) of the vessels with limited access groundfish permits opted to remain in the Common Pool likely due, in part, to their small potential contribution to a Sector’s total ACE. Common Pool vessels act independently of one another, with each vessel constrained by the number of DAS it can fish, by trip limits, and by all of the time and area closures. These restrictions help ensure that the groundfish catch of Common Pool vessels does not exceed the Common Pool’s allocation of the total ACE for all stocks (about 2% for 2010) before the end of the fishing year.

This report provides an evaluation of the economic and social performance of the groundfish fishery³ for fishing year 2010 (1 May 2010 – 30 April 2011). In this report, all references to year are for the fishing year. The report presents two types of comparisons to evaluate performance: year-to-year and Sector-to-Common Pool. The first involves comparing indicators of fishing performance for the 2010 fishing year with the average fishing performance of fishing years 2007 through 2009. The second involves comparisons of the performance of Sector and Common Pool vessels within the 2010 fishing year.

The performance measures used in the report cover landings, gross revenue (hereafter referred to as revenue), number of vessels and effort, average vessel performance, distributional issues, and employment. Revenues are based on landings and ex-vessel (first sale) prices, and together with fishing effort provide a first-order indication of vessel performance. Distribution is measured by fleet diversity (by vessel size and vessel revenue categories) and consolidation of revenues among vessels. Employment is measured by the number of crew positions and a measure that incorporates average crew sizes and the number of trips and days taken per year.

² It should be noted that two Sectors, the Georges Bank Cod Hook Sector (operating since 2004) and the Georges Bank Cod Fixed Gear Sector (implemented in 2006), operated in 2008 and 2009 but each only had an allocation of Georges Bank cod (*Gadus morhua*). In fishing year 2010, all members of the Georges Bank Cod Hook Sector joined the Georges Bank Cod Fixed Gear Sector.

³ This report falls under the fisheries performance measures program developed by the NEFSC Social Sciences Branch in 2009 with extensive consultation from stakeholders in the Northeast region. See www.nefsc.noaa.gov/read/socialsci/catchshares/

1.1. Data and Analytical Approach

The activities of vessels evaluated in the study are those with valid limited access multispecies permits during fishing years 2007-2010 and with revenue from landing any species in the fishing year (referred to as groundfish vessels). For 2010, activity is summarized by both Sector and Common Pool vessels as well as all vessels combined. An active vessel is defined as having revenue from the landing of any species within a fishing year. Aggregate performance was then compared for fishing years 2007-2010.

This report focuses only on vessels with limited access multispecies permits because these are the only vessels whose owners had the choice to either fish as a member of a Sector or in the Common Pool fleet in fishing year 2010. The purpose of this report is to examine the performance of these vessels.

All analyses were conducted at the vessel level; however, analyses at the owner level would likely give different results for some indicators since many fishermen own more than one vessel or permit, and some vessels are owned by multiple fishermen. Detailed ownership data are not currently available, although such data are being developed and will be included in future reports.

The evaluation includes only fish landed and sold⁴. Weights are given in landed pounds (after heading/gutting) rather than in live pounds (whole fish) because prices are commonly calculated on a per landed pound basis. Revenues also are based on what is landed and sold. Landings data in this report should not be used to conduct comparisons with Sector annual catch limits (ACLs) or the catch monitoring reports issued for Sectors, since the ACLs are calculated and monitored in live pounds, and include both landings and discards.

A groundfish trip is defined as a trip where the vessel owner or operator declared, either through the vessel monitoring system or through the interactive voice response system, that the vessel was making a groundfish trip. This includes trips on which groundfish days-at-sea were used (including monkfish (*Lophius americanus*) trips that used groundfish DAS). Other trips were also counted as groundfish trips if the dealer or vessel reported that groundfish was landed (e.g., trips with monkfish declarations that were not also using groundfish DAS).

Some statistics are reported by both home port and port of landing. “Home port” does not necessarily identify the port where fish are landed, but rather is the “city and state where vessel is moored” provided by vessel owners on the vessel permit applications. Most often, the home port is the port where supplies are purchased and crew is hired, although this does not apply in all cases⁵. Landed port is the actual port where fish are landed. We report by home port and by landed port because the implications of each are different. For example, revenue by home port gives an indication of the benefits received by vessel owners and crew (and some fishing-related businesses such as gear suppliers) that are based in that port. Revenue by landed port gives an

⁴ Due to the fact that this is an economic evaluation and not an evaluation of catch, we focus only on revenue and landed pounds of fish sold and don't account for the total catch which also would include discards. Both landings and discards count against the ACE allocated to Sectors, but revenues are only accrued for landings, not discards. Sector vessels do incur costs in trying to avoid discards and bringing discards to shore, but we are unable to calculate these costs here.

⁵ Alternative port affiliation data are available. Principal port declaration and the vessel owner's mailing address are also entered on the permit application. However, actual landings by port may vary widely from what a vessel owner thinks his principal port of landing will be before the fishing year begins. Also, an owner's mailing address can be different from a vessel's base of operation. Therefore, home port is typically used in social and economic studies to establish port affiliation (as it is in this report).

indication of the benefits that other fishing related business (primarily businesses that handle fish such as dealers and processors) derive from landings in their port. We identified the top six home ports and landed ports in the Northeast and also examined changes by home port and landed port at the state level.

Some indicators in the report use a measure of time called a “day absent.” A day absent is defined as the number of days (24 hours) the vessel is “absent” from port and is calculated by subtracting the sail date/time from the land date/time as entered on vessel logbook records, called vessel trip reports (VTRs).

For comparative purposes, many measures have been calculated for both groundfish landings and all species landings. “All species” refers to the total of all species of fish or shellfish landed, including groundfish. The home port and length of a vessel are provided by the vessel owner on the vessel’s yearly permit application. Data on vessel landings, prices, and revenues come from seafood dealer reports. Information about the number of fishing trips, and crew size are from VTRs⁶.

In addition to mean values, standard deviations are provided to show the degree of variability in the data. Some standard deviations are large relative to the mean, indicating that the values are widely dispersed. Therefore, care should be used when comparing mean values that have large standard deviations.

The figures generated by the Northeast Regional Office (NERO) for monitoring the total catch in the multispecies fishery differ from the figures in this report for several reasons: 1) NERO reports both landings and discards whereas this report examines landings only; 2) NERO reports live pounds since the ACLs are specified, and catch is monitored, in live pounds (live weight of fish is higher than landed weight because landed fish are often gutted, headed, etc.); and 3) the year-end figures posted by NERO include both limited access and open access multispecies vessels.

There were also some adjustments made to the underlying datasets in the period between the drafting of the Interim Report and this year-end report that affects all four years evaluated in the reports. Data used for the Interim Report contained a number of groundfish trips that were determined to be non-groundfish trips in the year-end data. There were also some trips by open access vessels in the Interim Report data that were removed from the year-end data. These definition changes result in minor discrepancies between the two reports. Most important, the number of vessels with revenue from at least one groundfish trip at year-end is less than the number of vessels reported in the Interim Report (see Table 8 in both reports). As a result, the landings and revenue values in the Interim Report were slightly overvalued. These minor discrepancies, however, do not change the basic findings of the Interim Report.

This assessment is not meant to be exhaustive, and several important performance measures are not included because data and/or analyses were not yet available. Four important factors not considered in this report are: (1) organizational and monitoring costs associated with joining a Sector; (2) changes in operating costs; (3) impacts from inter- and intra-Sector trading of ACE⁷; and (4) vessel ownership. The Fall 2011 version of this report will expand on the analyses of performance.

⁶All data from seafood dealer reports and vessel trips reports are as of July 12, 2011

⁷Impacts from quota trading include the cost of paying for ACE, revenue from selling ACE, access to credit and/or capital, and the effects of ACE market performance.

1.2. Sector vs. Common Pool Comparisons

Under Amendment 16 to the Groundfish FMP, quota-based management (involving ACLs for all groundfish stocks) was implemented simultaneous to the expanded voluntary division of the groundfish fishery into two groups: Sector vessels and Common Pool vessels. Hence, changes in fishery performance identified in this report are not solely attributable to either “hard ACLs” or “catch shares,” but reflect the concurrent implementation of both regimens.

Although some comparisons are made in this report between the performance of limited access Common Pool and Sector vessels, it is recognized that there are fundamental differences in the characteristics of Sector and Common Pool vessels and in the ACE and DAS allocations⁸. Differences in Common Pool and Sector performance may therefore simply reflect these basic differences rather than any induced by regulatory changes. Comparisons between Common Pool and Sector vessels should not be considered as an evaluation of DAS management vs. Sector management. A large number of Common Pool vessels have little or no DAS, while some Common Pool vessels have small vessel exemption permits (Category C) or hand gear permits (HA) excluding them from DAS constraints. Common Pool vessels are regulated not only by DAS, but also by additional measures⁹, some of which changed during the 2010 fishing year¹⁰. Finally, vessels opting into the Common Pool landed significantly less groundfish during the landings qualification period of 1996 through 2006 than those electing to operate in Sectors, which resulted in the Common Pool being allocated only 2% of the total ACE for all stocks in 2010.

2. LANDINGS AND REVENUES

Revenues are an important indicator of the financial performance of vessel-based fishing businesses, all other things being equal. Gross revenues are a function of the amount of fish landed and the price paid at the time of sale. Prices paid by dealers vary by species and may fluctuate as a result of short and long term market changes. Annual changes in gross revenues can result from three different factors: changes in prices paid for fish at the dock, changes in

⁸These may include differences in physical characteristics of the vessel, different fishing histories, and different attitudes about Sector management. Also, fishermen presumably opted to join a Sector or remain in the Common Pool based on their analysis of advantages and disadvantages of each regimen.

⁹ The effort controls regulating Common Pool vessels were established or modified under Amendment 16, as further modified by Framework 44, and include DAS reductions (by 27.5% for vessels with “A” DAS and by 72.5% for vessels with “B” DAS), rolling closures, trip limits, gear restricted areas, and a prohibition on the landing of windowpane flounder (*Scophthalmus aquosus*), ocean pout (*Zoarces americanus*), Atlantic wolffish (*Anarhichas lupus*), and SNE/MA winter flounder (*Pseudopleuronectes americanus*).

¹⁰ Framework 44 provides the Regional Administrator with the authority to adjust DAS counting and trip limits on an as-needed basis to keep the Common Pool within its sub-ACL for each stock. DAS counting rate changes and a number of trip limits adjustments have occurred. These have included a prohibition on retention of witch flounder (*Glyptocephalus cynoglossus*) and trip limits reductions on GOM cod, GOM haddock (*Melanogrammus aeglefinus*), GB yellowtail flounder (*Limanda ferruginea*), GOM winter flounder, GB winter flounder, and white hake (*Urophycis tenuis*).

quantity of landings, and changes in the species composition of the landings. Flexibility to target specific species and/or market categories at times when market values are high can be important in maximizing gross fishing revenues. Information is provided below on landings, overall revenues, and nominal prices for 2010 in comparison with 2007-2009.

2.1. Landings

Total landings of all species on all trips were about 239.1 million pounds in 2010. This compares to landings ranging from 259.5 million pounds to 277.1 million pounds in the 2007–2009 fishing years. Total groundfish landings on all trips declined from a high of 72.2 million pounds in 2008 to a low of 58.5 million pounds in 2010. Non-groundfish landings on all trips also declined from a high of 205.0 million pounds in 2008 to 180.6 million pounds in 2010 (Table 2).

Total landings of all species on groundfish trips were about 81.4 million pounds in 2010. This compares to landings ranging from 102.4 million pounds to 107.2 million pounds in the 2007–2009 fishing years. Groundfish landings on groundfish trips also declined from a high of 71.6 million pounds in 2008 to a low of 58.0 million pounds in 2010¹¹. Non-groundfish landings on groundfish trips also declined from a high of 39.3 million pounds in 2007 to 23.3 million pounds in 2010 (Table 3).

The cumulative landings by month in 2010 of both all species and groundfish species are, while lower, similar to those for 2007–2009 (Figures 1 and 2). Sector vessels were responsible for 65% of landings of all species on all trips in 2010, with Common Pool vessels accounting for the remaining 35% of the total (Figure 1 and Table 2). However, because of their large share of ACE allocations, Sector vessels accounted for 98% of landings of groundfish on all trips in 2010 with Common Pool landings responsible for only 2% (Figure 2 and Table 2).

At the species level, landings of cod and pollock (*Pollachius virens*) showed marked declines in 2010. Landings of haddock, redfish (*Sebastes fasciatus*), and white hake increased in 2010 compared to 2007–2009 (Figure 3).

2.2. Gross Revenues

Total revenues from all species on all trips for 2010 were \$297.7 million. This compares to revenue that ranged from a low of \$271.1 million in 2009 to a high of \$298.2 million in 2007. Groundfish revenues from all trips in 2010 were \$83.3 million which is lower than 2007 – 2009 revenues which ranged from \$85.1 million in 2009 to \$90.1 million in 2008. Non-groundfish revenues from all trips in 2010 were \$214.4 million, higher than 2007 – 2009 revenues which ranged from \$186.1 million in 2009 to \$209.2 million in 2007 (Table 2).

Total revenue from all species on groundfish trips in 2010 (\$105.1 million) declined from 2007 – 2009 levels which ranged from \$111.3 million in 2009 to \$129.1 million in 2007. Groundfish revenue in 2010 on groundfish trips was \$2 million lower than in 2009 and \$7 million lower than the highest year of the series which was 2008. Revenue from non-groundfish landings on groundfish trips declined each year from \$41.3 million in 2007 to \$22.5 million in 2010 (Table 3).

As with landings, cumulative revenues by month for all trips in 2010, for both all species and groundfish species, follow a similar pattern to those in 2007–2009 (Figures 4 and 5). Sector

¹¹ Note that almost 100% of groundfish landings occurred on groundfish trips. For that reason, groundfish landing values for all trips and groundfish trips are nearly identical.

revenues from all species on all trips in 2010 accounted for 67% of total revenue, while Common Pool revenue accounted for 33% (Figure 4 and Table 2). However, because of their large share of ACE allocations, Sector vessels accounted for 97% of groundfish revenue on all trips in 2010, while Common Pool vessels accounted for the remaining 3% (Figure 5 and Table 2).

2.1.1 Revenues by Landing Port and Home Port

In Massachusetts, Connecticut, and New York landing ports the nominal value of landings for all species in 2010 was higher than the previous three years. All species value landed in the states of New Hampshire, New Jersey, and Rhode Island in 2010 was similar to the previous three years. Maine overall and Portland in particular had steadily declining landings from 2007 through 2010. In all major MA landing ports except Chatham, the nominal value of landings for all species in 2010 was higher than or equal to the previous three years (Table 4).

In Massachusetts landing ports the nominal value of landings for groundfish in 2010 was higher than the previous three years. Groundfish value landed in all other states steadily declined from 2007, and also declined in the major landing ports of Portland, ME, Chatham, MA and Port Judith, RI. In Boston and New Bedford, MA the nominal value of landings for groundfish in 2010 was higher than in the previous three years (Table 6).

From a home port and home port state perspective, 2010 revenues from all species on all trips by vessels declaring their home ports as Gloucester, MA; New Bedford, MA; and Portland, ME were the highest in the past four years, as were the 2010 all species revenues in the home port states of CT, ME, and NY (Table 5). Similarly, groundfish revenues on all trips for the home ports of New Bedford, MA; and Portland, ME and for Maine overall were higher in 2010 than during the past 3 years. Vessels with a Gloucester, MA homeport designation had groundfish values equal to 2009 values. The increase in home port groundfish and all species revenues in the state of Maine, in contrast to the decline in these values landed in this state, indicates that vessels declaring home ports in ME are landing their catch in other ports. Home ports in Rhode Island overall and in Point Judith experienced declines in groundfish revenue from 2007 through 2010, although the decline between 2009 and 2010 was much less than in the previous years (Table 7).

2.2.2. Revenues by Species

Examination of groundfish landings by species (Figure 3) in relation to groundfish revenue by species (Figure 6) revealed that changes in revenue during 2007-2010 were largely due to changes in landings. Notable differences to this generalization are: (1) landings of cod declined in 2010, but higher prices resulted in cod revenues in 2010 remaining similar to those in 2009; and (2) pollock revenues were slightly lower in 2010 compared to 2009, with higher prices mostly offsetting the drop in landings. Revenues for cod, winter flounder, witch flounder, yellowtail, American plaice (*Hippoglossoides platessoides*), and pollock declined slightly between 2009 and 2010, while revenues from, white hake and redfish slightly increased. Haddock revenues increased by 22%, from \$17.4 million in 2009 to \$21.1 million in 2010. Had haddock revenues not increased, the groundfish revenue from all trips would have declined by 6.5% rather than the actual decline of 2.1% (Table 2).

2.3. Prices

While both groundfish landings and revenue were lower in 2010 than in the previous three years, aggregate average groundfish prices were the highest in 2010. Analysis of the average yearly prices of the nine allocated groundfish species during fishing years 2007-2010 revealed notable increases in 2010 prices for cod, witch flounder, and pollock¹² (Figure 7). The only species for which there was a price decrease between 2009 and 2010 was yellowtail flounder.

Nominal yearly average prices of combined groundfish species declined from \$1.43/lb in 2007 to \$1.23/lb in 2009 (Figure 8). In 2010, the combined groundfish average price increased to \$1.44/lb. The yearly average price for combined non-groundfish species also increased in 2010 to \$1.20/lb from \$1.11/lb in 2007 and \$1.00/lb in 2009.

Because average nominal prices of a combination of all groundfish species do not explicitly account for changes in the quantities of groundfish species in each year, a price index was constructed to more accurately display price trends of groundfish species. Price indexes more accurately reflect percentage changes in prices than results from using simple averages. The approach used is a “Fisher Ideal” index¹³, which is constructed from price and quantity data on dealer purchases of all the allocated groundfish species. The index was constructed by using quarterly data for fishing years 2007, 2008, 2009, and 2010. May-July (quarter one) of 2007 was set as the base period, with a value of 1.0.

The index values (Figure 9) show how combined prices have changed in relation to quarter one 2007 prices. A value less than one means that prices are lower compared to the base time period, while a value greater than one indicates that prices have increased relative to quarter one in 2007.

The price index confirms that groundfish prices increased in 2010. The second, third, and fourth quarter 2010 prices are higher than in all other quarters, except quarters 3 and 4 of 2007 (Figure 9).

3. NUMBER OF VESSELS AND EFFORT

Effort indicators provide information about the amount of fishing that has occurred to produce the landings. These indicators also provide a way to gauge changes in the cost of fishing when detailed information on fishing costs and quantities of inputs is not available¹⁴. In this report, three indicators were used to measure fishing activity and effort: the number of active fishing vessels, the number of fishing trips, and the number of days absent from port. Detailed cost and input information, based on data obtained by at-sea observers, will be included in future reports.

¹² Pollock prices were between \$1.00-1.40 per pound during May through July 2010 compared to \$0.50-1.00 per pound during the same period in 2007 through 2009. The 2010 price increase may, in part, reflect the reduced pollock quota at the start of the 2010 fishing year, which constrained landings. The quota was subsequently increased in mid-July 2010. Prices then declined to \$0.80 to \$1.00 in August through the remainder of the fishing year. These prices are, however, above 2007-2009 levels during the same time period.

¹³ See Balk, B.M. 2008. Price and quantity index numbers. Cambridge University Press. New York, N.Y.

¹⁴ Fishing inputs are the materials and labor used to produce the fish landed at the dock. Common inputs include vessels, crew, fuel, ice, hooks, nets, and other fishing supplies and equipment.

3.1. Number of Vessels

The number of active vessels steadily declined during the 4 years evaluated in this report (Table 8). The number of active groundfish vessels making any fishing trips declined by 17% between 2007 (1,082 vessels) and 2010 (900 vessels). An 8% decline (i.e., 73 vessels) occurred between 2009 and 2010. Similarly, from 2007 to 2010 there was a 32% decline in the number vessels making at least one groundfish trip (658-450), with a 20% reduction (116 vessels) between 2009 and 2010. It is not possible to reliably identify the cause for the reduction in the number of active vessels that has been occurring for a number of years, including before 2007. Amendment 16 implemented a number of measures that facilitated the consolidation of fishing effort onto fewer active fishing vessels as a means to reduce the operational expenses for owners of multiple permits. For example, that action allows owners of permits held in confirmation of fishing history and not associated with an actual fishing vessel to participate in Sectors (i.e., contribute its landing history to calculate a Sector's yearly allocation of ACE for most stocks) and lease DAS. Amendment 13 implemented DAS leasing and transfer programs allowing vessels to fish the DAS of multiple other vessels. Further, as noted previously, it is not possible to identify the extent to which inactive vessels in Sectors may benefit if other Sector vessels harvest their allocation.

In 2010, 447 vessels (33%) were inactive (no landings) (Table 8). Of these inactive vessels, 296 were Sector vessels and 151 were Common Pool vessels. The number of inactive vessels in 2010 can be compared to the number of inactive vessels in other years: 331 vessels (32%) in 2007, 398 vessels (28%) in 2008, and 408 vessels (30%) in 2009. Some vessel inactivity may be due to participation in days-at-sea (DAS) leasing or transfer programs and/or internal Sector management decisions. Data are not currently available to evaluate how inactive vessels in Sectors may have benefited from agreeing to have other vessels catch the Sector's allocation.

3.2. Number of Trips and Days Absent

Numbers of fishing trips and days absent from port by active vessels were analyzed, in the aggregate and by vessel size category (< 30'; 30' to <50'; 50' to <75'; and 75' and above), to evaluate vessel activity patterns during the past 4 years (Table 9). Vessel trip report (VTR) data were used to determine the number and length of trips taken in each fishing year.

Between 2007 and 2010, the total number of groundfish fishing trips and total days absent on groundfish trips declined by 48% and 33%, respectively (27,004 trips in 2007 vs. 14,045 trips in 2010; 28,158 days absent in 2007 vs. 18,818 days absent in 2010) (Table 9). In contrast, during this same four-year period, the number of non-groundfish trips and days absent on non-groundfish trips increased slightly (46,635 trips in 2007 vs. 47,539 trips in 2010; 35,186 days absent in 2007 vs. 35,220 days absent in 2010) (Table 9).

Changes in fishery effort between 2007 and 2010 were also examined by vessel size category. In percentage terms, the largest reductions in groundfish trips and days absent on groundfish trips occurred in the less than 30' vessel size category (63% and 59%, respectively). However, there were only a couple hundred trips per year in this vessel size category. In terms of magnitude the 30' to < 50' vessel size category had the greatest reductions in groundfish trips and days absent (8,478 reduction in groundfish trips and a 4,091 reduction in days absent on groundfish trips from 2007 to 2010) (Table 9). In contrast, the largest vessel class (75' and above) experienced reductions of 12% in groundfish trips and a 5% reduction in days absent on groundfish trips. The 50' to < 75' vessel size category had reductions of about 59% in

groundfish trips and about 45% in days absent on groundfish trips. Average trip length on both groundfish and non-groundfish trips was relatively constant within all vessel size classes during the time series (Table 9).

4. AVERAGE VESSEL PERFORMANCE

Average revenue per vessel, per trip, and per day absent were evaluated to assess changes in economic performance. A rigorous assessment of fishery economic performance would require actual cost information to estimate profits. However, measures of profit would need to consider both input costs (cost of purchasing additional ACE, fuel, fishing supplies, ice, vessels, etc.) and revenues from fish and ACE sales. Although data on input costs are currently being collected by fishery observers, analysis of this information is not yet complete¹⁵. Therefore, for this report, landings revenue per unit of effort was used as a proxy measure for profit. Changes in revenue per unit of effort serve as a good proxy for changes in profit because an increase in the ratio of revenue to effort implies that revenues are increasing more than inputs. This is based on the assumption that inputs change as effort changes. However, these changes may not be proportional so it will be important to factor in actual cost data in future reports.

The revenue per effort metrics used in this report characterize the performance of an average vessel within each vessel size category. However, individual vessel performance may vary substantially, in either direction, from the average. Changes in revenue per unit effort can also be accompanied by changes in the use (and therefore the cost) of inputs¹⁶. These caveats should be considered when evaluating the vessel performance results.

Average all-species revenue per vessel during fishing year 2010 was greater than that in any of the three prior fishing years across all vessel size categories (Table 10). However, there are some differences in average groundfish revenue per vessel by vessel size category.

Vessels in the two smallest size categories are relying more on non-groundfish trips and landings for their revenues. For these length categories, both the 2010 average groundfish revenue per vessel and the 2010 revenue from all species on groundfish trips were among the lowest in the past 4 years. In contrast, the larger vessels have higher averages of groundfish revenue per vessel and revenues from all species on groundfish trips in 2010 than in the previous 3 years. For the two smallest vessel size categories, the average groundfish revenue per vessel was a smaller portion of revenue from all species in 2010 than in the previous three years, which means non-groundfish revenue became a larger portion of the average revenue for these vessels. For the two largest vessel size categories, the proportion of average groundfish revenue per vessel in 2010 was higher than in the previous three years. Furthermore, the average revenue from all species and the average groundfish revenue for Sector vessels was higher than the overall 2010 average (and the averages for Common Pool vessels were lower) (Table 10).

All revenue per trip and revenue per day absent measures for the largest three vessel size categories were higher in 2010 than in 2007-2009 (Table 11). All measures of revenue per trip and per day absent were higher for the average Sector vessel and lower for the average Common Pool vessel. This indicates that Sector vessels may be more profitable, on average, than Common Pool vessels. However, an analysis of costs is needed to measure profits.

¹⁵ Both the Northeast Fishery Observer Program and the At-Sea Monitors Program implemented to monitor Sector trips collect trip cost data that can be used to evaluate fishery activity. However, these programs do not collect information about sector organizational and membership costs.

¹⁶ For example, the amount of fuel used could increase due to a change in fishing behavior that may generate an increase in revenue per day absent.

5. DISTRIBUTIONAL ISSUES

Management and regulatory changes may induce changes in the relative distribution of types and locations of vessels operating in a fishery. The measures provided thus far have provided information about aggregate activity and average vessel performance by port of landing, home port, and by vessel size class. Of equal importance is the number of vessels that underlie this information, how the distribution of vessels has changed geographically, and how the mix of vessel “types,” in terms of vessel size class and revenue class, has changed.

5.1. Number of Active Vessels by Home Port

As noted previously (Section 3.1 and Table 8), the total number of active vessels with revenue from any species on all trips declined 17% between 2007 and 2010 (1,082 to 900 vessels – decline of 70 between 2007 and 2008, 39 between 2008 and 2009, and 73 between 2009 and 2010). By home port state, the largest percentage decline (33%: 18 to 12 vessels) occurred in Connecticut. By home port, the largest percentage declines occurred in Boston (30%), Portland (27%), and New Bedford (24%) (Table 12).

Between 2009 and 2010, the largest percentage reduction in active vessels, by home port state, occurred in Massachusetts (9%: 488 to 446 vessels) and, by home port, in Boston (15%: 66 to 56 vessels) and New Bedford (11%: 87 to 71 vessels) (Table 12).

Between 2007 and 2010, the total number of vessels with revenue from at least one groundfish trip declined by 32% (658 to 450 vessels – decline of 47 between 2007 and 2008, 45 between 2008 and 2009, and 116 between 2009 and 2010.) (Table 13). By home port state, the largest percentage declines from 2007 to 2010 occurred in New Jersey (51%: 41 to 20 vessels) and in Maine (46%: 78 to 42 vessels). By home port, the greatest percentage reductions occurred in New Bedford (45%: 60 to 33 vessels) and Boston (33%: 54 to 36 vessels).

Between 2009 and 2010, the largest percentage reduction in number of vessels with revenue from at least one groundfish trip, by home port state, occurred in Maine (33%: 63 to 42 vessels) and, by home port, in New Bedford (38%: 53 to 33 vessels) and Gloucester (22%: 96 to 75 vessels) (Table 13).

5.2. Number of Active Vessels by Vessel Size

Declines in the number of active vessels occurred in all vessel size categories between 2007 and 2010 (Figure 10). The 30’ to <50’ vessel size category, which has the largest number of active vessels (revenue from any species on all trips), experienced a 17% decline (572 to 476 vessels) during the past 4 years. The 50’ to <75’ vessel size category, containing the second largest number of vessels, experienced a 20% reduction during 2007 to 2010 (289 to 230 vessels). The number of active vessels in both the smallest (less than 30’) and largest (75’ and above) vessel size categories declined by 12% between 2007 and 2010. The decline was consistent across all four years in all vessel size categories (Figure 10).

The 30’ to 50’ vessel size category also contains the largest number of active groundfish vessels (with revenue from any species on groundfish trips only) (Figure 11). Between 2007 and 2010, this vessel size category experienced a 30% reduction in active groundfish vessels (351 to 246 vessels). The 50’ to 75’ vessel size category, containing the second largest number of active groundfish vessels, underwent a 39% reduction, declining from 194 vessels in 2007 to 119 vessels in 2010. Between 2007 and 2010, the over 75’ vessel size category experienced a 25% decline in active groundfish vessels (84 to 63 vessels), while the number of active groundfish

vessels in the < 30' vessel size category declined by 24% (29 to 22 vessels). The decline was consistent across all four years in all vessel size categories except for the 30' to < 50' category in which the largest decline occurred between 2009 and 2010 (Figure 11).

5.3. Distribution of Vessel Revenue

Groundfish revenues were not evenly distributed among groundfish vessels (or groundfish vessel categories) during the past 4 years (nor probably at any time). During 2007-2010, the amount of overall revenue concentrated in the top earning categories gradually increased. Distribution of revenue was examined in two ways:

- (1) Active vessels in each year were divided into eight revenue categories, with the smallest revenue category including vessels earning less than \$50,000 for all trips and species landed during the first nine months of 2007–2010, and the highest revenue category including vessels earning over \$1 million (Figure 12).
- (2) Vessels were ranked by revenue from highest to lowest, and then categorized into 10 brackets, each containing 10% of the total number of vessels (Table 14).

Between 2007 and 2010, the number of vessels in the six lowest revenue categories (includes vessels that earned from \$1 to \$699,999) declined (Figure 12). The number of vessels in the top two revenue categories was relatively constant during the past 4 years, except for the pronounced increase in 2010 in the number of vessels in the largest revenue category (\$1.0 million and greater). Since the total number of active vessels declined between 2007 and 2010 (Table 12) and revenue per vessel changes from year to year, Figure 12 shows the net result of these two factors on the yearly distribution of vessels in the revenue categories.

During 2007-2009, approximately 60% of the total revenue from all species has been concentrated in the top 20% of vessels (Table 14). In 2010, the top 20% of vessels had 65% of the revenue from all species. In 2010, there was little change in the share of the bottom three revenue earning categories for all-species revenues.

During 2007-2010, groundfish revenues became increasingly more concentrated in the highest-earning 20% of vessels, increasing from 67% in 2007 to 80% in 2010 (Table 15). Most of this increase occurred between 2009 and 2010. As a consequence, the share of groundfish revenues earned by the bottom revenue earning categories declined during this time period.

The distribution of Common Pool groundfish revenue is highly skewed to the top 10% of vessels (Table 15), which accounted for 77% of the Common Pool groundfish revenues in 2010. However, Common Pool groundfish revenues in 2010 represent a very small percentage (3%: \$2.3M/\$83.3M, Table 1) of the total 2010 groundfish revenues.

5.4. Consolidation of Revenue among Vessels

Another way of looking at the distribution of revenue is evaluating the number of vessels that earn portions of the overall revenue. When fewer vessels earn a larger portion of the overall revenue, then consolidation has occurred. Examining year to year changes in the proportion of vessels by revenue quartile can be used to evaluate consolidation of revenues while adjusting for the overall decline in total numbers of vessels.

The number of vessels accounting for 25%, 50%, 75%, and 100% of the revenue from all species on all trips was tabulated for each year from 2007 to 2010 (Table 16). From 2007 to

2009, the number of vessels that accounted for the top 25% of all species revenue declined by 6 vessels (55 to 49 vessels), but declined by 10 vessels in 2010 (49 to 39 vessels). However, because the total all species fleet size also decreased between 2007 and 2010 (1,082 to 900 vessels), the percentage of vessels accounting for the top 25% of all species revenues only changed from approximately 5.0 % during 2007-2009 to 4.3% in 2010. From 2007 to 2009, the number of vessels that accounted for the top 50% of all species revenue fell by seven vessels in 2008 and by seven more vessels in 2009 (from 152 in 2007 to 138 in 2009), but declined by 28 vessels to 110 vessels in 2010. This translates into a percentage change of the fleet accounting for 50% of the all species revenues from roughly 14.0% during 2007-2009 to 12.2% in 2010 (Table 16). These results show that revenue has consolidated on fewer vessels between 2010 and the three previous years.

With respect to groundfish revenues, the number of vessels that accounted for the top 25% of groundfish revenue on all trips declined from 24 to 12 during 2007- 2010 (Table 17). On a fleet percentage basis, 2.4% of the 2010 fleet accounted for 25% of the groundfish revenues vs. 3.3 to 3.5% of the fleet during 2007-2009. The number of vessels that accounted for the top 50% of groundfish revenue during the past 4 years fell from 82 to 38. On a fleet percentage basis, 7.6% of the 2010 fleet accounted for 50% of the groundfish revenues versus approximately 11% of the fleet during 2007-2009 (Table 17).

While consolidation has occurred at the vessel level, these analyses do not provide information about consolidation at the ownership/business entity level, which is broadly defined as individual owners, ownership groups, or legally constituted corporations having a financial and management interest in more than one vessel. An analysis of entity-level consolidation would evaluate whether revenues were concentrated among fewer entities rather than fewer vessels. For example, if the same number of entities used fewer vessels, a vessel-level analysis would show consolidation whereas an entity level analysis would not. Better information on vessel ownership is required to perform entity-level consolidation analyses. This issue will be more fully addressed in future reports.

6. EMPLOYMENT

Changes in employment levels can result from changes in fishery regulations. If new management approaches such as catch shares foster vessel consolidation or reductions in fishing effort, working conditions may be affected, such as pay and time spent at sea, and the number of jobs. Although NMFS does not track employment in the fishing industry in the Northeast, Vessel Trip Reports contain information about crew size on fishing trips and the duration of trips. While these data do not identify the actual number of individuals employed (e.g., crew often work for more than one vessel owner), the data can be used to indicate the number of crew positions available and the length of time crew spend at sea.

6.1. Number of Crew Positions

The number of crew positions, measured by summing the average crew size of all active vessels on all trips, declined from 2,687 positions in 2007 to 2,277 positions in 2010 (a 15% decline) (Table 18). Declines in crew positions occurred within all vessel size categories during 2007-2010, with the largest percentage reduction (21%: 870 to 686 crew positions) occurring in the 50' to <75' vessel size category. Declines in crew positions also occurred across all home port states (Table 19). Vessels with a home port in Connecticut and New Hampshire experienced the largest percentage decline (20%: 52 to 41 crew positions in CT and 139 to 111 crew positions

in NH), while vessels home ported in New York had the lowest percentage decline (1%: 204 to 201 crew positions). All other home port states had crew position reductions ranging from 10 to 18% between 2007 and 2010 (Table 19).

6.2. Number of Crew Trips

Although the number of crew positions is an indicator of the availability of jobs, this measure is uninformative about whether positions are part-time or full-time¹⁷. To account for this full-time/part-time distinction, a crew-trip indicator was derived. Because most crew members are paid on a per trip basis, this crew-trip indicator provides a measure of the total opportunities for crew to earn a share of the landing revenues.

Total crew trips were calculated by summing the crew size of all trips taken in each fishing year across vessel size category (Table 18), and also across home port state (Table 19). Total crew trips declined from 151,747 in 2007 to 126,583 in 2010 (a 17% decline). The largest percentage decline occurred in the 30' to <50' vessel size category (18% decline). The home port state with the largest percentage decline was Connecticut (28% decline).

6.3. Number of Crew Days

Crew days, calculated by multiplying a trip's crew size by the days absent from port, were summed across vessel size categories and home port states to provide additional information about the time crew spend at sea to earn a share of the revenues. Since the number of trips affects the crew-days indicator, the indicator is also a measure of work opportunity. Conversely, crew days can be viewed as an indicator of time invested in the pursuit of "crew share" (the share of trip revenues received at the end of a trip). The time spent at sea has an opportunity cost. For example, if crew trips and crew earnings remain constant, a decline in crew days would reveal a benefit to crew in that less time was forgone for the same amount of earnings.

The ratio of crew days to crew trips takes account of these factors. The absolute value of the ratio, in and of itself, does not provide information about opportunities for crew. However, changes in the ratio over time are informative. For example, a declining trend would imply a reduction in time spent per "earning opportunity" (a crew trip).

Since average trip length has remained relatively constant within vessel size categories during 2007 to 2010, the crew-days indicator closely tracks the crew-trips indicator in percentage terms across vessel length classes and home port states. As a result, the ratio of crew days to crew trips has also remained relatively constant across vessel size categories and home port states over the time series (Tables 18 and 19). This means that the time spent per earning opportunity has not changed during the 2007-2010 period.

Crew-based changes, by themselves, do not indicate whether income for crew has changed. Crew income is determined by many factors such as the revenue/cost sharing formula used, the amount of revenue a vessel receives from fish sales, the costs of fishing, the number of vessels actively fishing, and the intensity of fishing.

¹⁷ For example, a vessel with three crew members that makes 10 trips a year is considered equivalent with respect to crew positions as a vessel with three crew members that makes 60 trips per year.

7. CONCLUDING REMARKS

Our analyses of fishery performance measures of the limited access Northeast Multispecies (Groundfish) Fishery revealed some notable changes in the fishery between 2007 and 2010. Many of these reflect trends apparent since 2007, while other changes are of more recent origin. The measures that reflect continuation of trends into 2010 include: (1) declining landings since 2008 of both groundfish and non-groundfish species; (2) declining groundfish revenue; (3) declining number of active vessels; (4) declining number of groundfish trips and days absent; (5) a small increase in the number of non-groundfish trips; (6) increasing concentration of groundfish revenue among top earning vessels; (7) consolidation of revenue on fewer number of vessels; and (8) declining employment opportunities for crew.

Changes of a more recent origin include: (1) increases in non-groundfish and therefore total revenues; (2) increases in prices of groundfish and non-groundfish species; and (3) increased economic performance in terms of revenue per unit effort, particularly among Sector vessels.

The Fall 2011 report will include some measures at the vessel ownership level. Vessel operating cost data will also be used to better evaluate changes in financial performance. If information about the cost of Sector membership is available, this will also be included. The impact on all job categories, beyond crew, of changes in landings patterns will be evaluated as well. To the extent possible, information about ACE trading will be analyzed to understand how Sector management and hard ACLs have affected fishery performance.

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Table 2. Total landings and revenue from all trips by fishing year.

	2007	2008	2009	2010		
Landed Pounds				Total	Sector Vessels	Common Pool
Groundfish	64,003,776	72,162,445	70,568,091	58,492,204	57,068,055	1,424,149
Non-Groundfish	195,443,873	204,955,406	192,111,087	180,610,957	97,963,463	82,647,494
Total Pounds	259,447,649	277,117,851	262,679,178	239,103,161	155,031,518	84,071,643
Gross Revenue						
Groundfish	\$89,055,085	\$90,131,938	\$85,088,241	\$83,293,667	\$81,025,594	\$2,268,073
Non-Groundfish	\$209,191,370	\$201,347,322	\$186,051,595	\$214,426,203	\$117,238,604	\$97,187,599
Total Revenue	\$298,246,455	\$291,479,260	\$271,139,836	\$297,719,870	\$198,264,198	\$99,455,672

Table 3. Total landings and revenue from groundfish trips by fishing year.

	2007	2008	2009	2010		
Landed Pounds				Total	Sector Vessels	Common Pool
Groundfish	63,222,210	71,633,167	70,080,457	58,045,140	56,757,197	1,287,943
Non-Groundfish	39,307,096	35,529,503	32,334,158	23,330,563	18,431,964	4,898,599
Total Pounds	102,529,306	107,162,670	102,414,615	81,375,703	75,189,161	6,186,542
Gross Revenue						
Groundfish	\$87,802,387	\$89,392,204	\$84,468,730	\$82,627,612	\$80,583,278	\$2,044,334
Non-Groundfish	\$41,253,240	\$33,020,472	\$26,782,828	\$22,471,181	\$18,266,597	\$4,204,584
Total Revenue	\$129,055,627	\$122,412,676	\$111,251,558	\$105,098,793	\$98,849,875	\$6,248,918

Table 4. Value of landings of all species by state and port of landing (all trips).

	Year			
	2007	2008	2009	2010
CT	\$3,185,262	\$3,882,126	\$3,913,109	\$4,066,854
MA	\$168,405,873	\$157,262,537	\$163,534,982	\$175,529,156
Boston	\$11,375,320	\$11,360,821	\$11,191,030	\$14,048,764
Chatham	\$9,680,874	\$9,453,299	\$8,121,967	\$7,576,276
Gloucester	\$38,638,882	\$37,551,870	\$40,677,893	\$40,026,506
New Bedford	\$88,758,014	\$81,042,560	\$85,133,834	\$95,551,092
ME	\$24,665,470	\$23,090,252	\$18,638,951	\$20,237,976
Portland	\$11,982,614	\$12,590,656	\$7,678,754	\$6,956,041
NH	\$6,730,907	\$6,588,771	\$7,732,385	\$6,946,241
NJ	\$26,200,104	\$30,215,885	\$19,401,299	\$24,776,941
NY	\$20,503,691	\$19,219,641	\$18,388,469	\$21,881,620
RI	\$36,837,790	\$37,661,577	\$28,412,695	\$30,650,503
Point Judith	\$23,378,659	\$27,139,532	\$19,996,544	\$22,272,815
All Other States	\$11,717,358	\$13,558,471	\$11,117,946	\$13,630,579
Grand Total	\$298,246,455	\$291,479,260	\$271,139,836	\$297,719,870

Table 5. Value of landings of all species by home port state and home port (all trips).

	Year			
	2007	2008	2009	2010
CT	\$4,442,229	\$4,398,124	\$3,853,337	\$5,629,467
MA	\$153,859,021	\$143,144,848	\$143,329,432	\$150,217,450
Boston	\$33,918,668	\$30,056,944	\$26,648,596	\$27,688,331
Chatham	\$7,504,169	\$7,463,522	\$6,633,878	\$6,614,323
Gloucester	\$22,954,904	\$21,859,698	\$23,894,567	\$25,178,901
New Bedford	\$60,131,753	\$57,639,790	\$59,428,586	\$64,444,600
ME	\$29,366,054	\$27,686,181	\$27,773,065	\$32,336,170
Portland	\$10,016,016	\$8,780,058	\$10,518,381	\$13,287,974
NH	\$9,410,291	\$10,722,394	\$9,813,786	\$7,700,941
NJ	\$21,538,577	\$22,207,440	\$17,659,541	\$20,532,022
NY	\$22,575,984	\$25,976,681	\$22,877,799	\$27,693,790
RI	\$40,598,466	\$40,302,815	\$30,911,245	\$35,698,323
Point Judith	\$25,492,588	\$27,596,668	\$20,036,486	\$23,327,426
All Other States	\$16,455,833	\$17,040,777	\$14,921,631	\$17,911,707
Grand Total	\$298,246,455	\$291,479,260	\$271,139,836	\$297,719,870

Table 6. Value of landings of groundfish by state and port of landing (all trips).

	Year			
	2007	2008	2009	2010
CT	\$191,518	\$176,088	\$41,799	\$13,316
MA	\$67,378,741	\$70,169,866	\$72,295,913	\$73,336,890
Boston	\$8,336,226	\$8,864,771	\$8,997,442	\$11,598,490
Chatham	\$3,364,594	\$3,556,011	\$3,228,939	\$2,165,564
Gloucester	\$24,260,259	\$27,320,124	\$30,778,079	\$27,777,488
New Bedford	\$26,627,177	\$26,373,149	\$24,374,142	\$29,072,251
ME	\$9,917,320	\$10,802,145	\$5,980,465	\$4,738,143
Portland	\$8,857,237	\$10,194,963	\$4,989,239	\$3,853,628
NH	\$3,400,649	\$4,146,524	\$4,453,812	\$3,268,992
NJ	\$1,132,323	\$452,501	\$35,524	\$29,035
NY	\$1,507,235	\$1,090,896	\$298,146	\$293,257
RI	\$5,504,269	\$3,290,278	\$1,979,262	\$1,611,478
Point Judith	\$4,607,500	\$2,758,541	\$1,830,724	\$1,508,615
All Other States	\$23,030	\$3,640	\$3,320	\$2,556
Grand Total	\$89,055,085	\$90,131,938	\$85,088,241	\$83,293,667

Table 7. Value of landings of groundfish by home port state and home port (all trips).

	Year			
	2007	2008	2009	2010
CT	\$524,883	\$358,968	\$126,180	\$55,881
MA	\$57,987,466	\$59,606,706	\$59,857,458	\$58,983,839
Boston	\$15,831,454	\$14,983,619	\$13,740,951	\$14,372,582
Chatham	\$2,850,929	\$2,900,218	\$2,786,081	\$2,371,125
Gloucester	\$13,882,857	\$14,800,824	\$16,865,061	\$16,845,755
New Bedford	\$16,382,925	\$18,091,006	\$16,558,128	\$18,007,651
ME	\$14,005,240	\$14,899,028	\$14,091,442	\$15,259,304
Portland	\$6,708,271	\$6,818,518	\$8,397,490	\$10,982,111
NH	\$4,908,606	\$7,222,173	\$6,067,623	\$3,692,642
NJ	\$1,235,981	\$655,769	\$422,172	\$313,239
NY	\$2,292,744	\$1,795,791	\$749,263	\$1,139,723
RI	\$6,933,478	\$4,542,460	\$3,068,921	\$3,247,110
Point Judith	\$4,719,077	\$3,293,736	\$2,267,160	\$2,405,407
All Other States	\$1,166,687	\$1,051,043	\$705,182	\$601,929
Grand Total	\$89,055,085	\$90,131,938	\$85,088,241	\$83,293,667

Table 8. Number of active vessels by fishing year.

Number of Vessels	2007	2008	2009	2010	2010	
					Sector Vessels	Common Pool
Vessels issued limited access groundfish permits as of May 1 each year*	1,413	1,410	1,381	1,347	740	607
With valid limited access groundfish permit and revenue from any species	1,082	1,012	973	900	444	456
With valid limited access groundfish permit and revenue from at least one groundfish trip	658	611	566	450	305	145
Number and percent of inactive (no landings) vessels	331 (32%)	398 (28%)	408 (30%)	447 (33%)	296 (40%)	151 (25%)

* These numbers exclude groundfish limited access eligibilities held as Confirmation of Permit History (CPH). Starting in 2010, Amendment 16 authorized CPH owners to join Sectors and to lease DAS. For purposes of comparison, CPH vessels are not included in the 2010 data for either sector or Common Pool.

Table 9. Effort by active vessels.

Vessel Size	2007	2008	2009	2010	2010	
					Sector Vessels	Common Pool
Less than 30'						
Number of groundfish trips	271	236	412	101	1	100
Number of non-groundfish trips	2,534	2,249	2,287	2,236	514	1,722
Number of days absent on groundfish trips	101	80	147	41	0.3	41
Number of days absent on non-groundfish trips	665	680	689	698	209	488
Average trip length on groundfish trips (standard deviation)	0.39 (0.17)	0.35 (0.14)	0.37 (0.18)	0.41 (0.10)	0.33	0.42 (0.10)
Average trip length on non-groundfish trips (standard deviation)	0.35 (0.29)	0.35 (0.28)	0.36 (0.38)	0.37 (0.50)	0.49 (0.99)	0.34 (0.17)
30' to < 50'						
Number of groundfish trips	18,190	18,452	19,383	9,712	7,953	1,759
Number of non-groundfish trips	28,883	27,585	27,315	28,476	11,462	17,014
Number of days absent on groundfish trips	9,598	9,611	9,256	5,507	4,350	1,158
Number of days absent on non-groundfish trips	11,051	10,431	10,493	11,081	4,555	6,526
Average trip length on groundfish trips (standard deviation)	0.53 (0.66)	0.52 (0.63)	0.48 (0.61)	0.57 (0.66)	0.55 (0.64)	0.66 (0.73)
Average trip length on non-groundfish trips (standard deviation)	0.45 (0.52)	0.43 (0.55)	0.43 (0.50)	0.42 (0.37)	0.43 (0.37)	0.42 (0.38)

Table 9, continued. Effort by active vessels.

Vessel Size	2007	2008	2009	2010	2010	
					Sector Vessels	Common Pool
50' to < 75'						
Number of groundfish trips	7,018	6,356	4,909	2,895	2,505	390
Number of non-groundfish trips	11,976	12,823	13,425	13,522	6,418	7,104
Number of days absent on groundfish trips	10,706	9,871	8,263	5,878	5,509	370
Number of days absent on non-groundfish trips	13,000	13,543	14,251	13,663	7,358	6,305
Average trip length on groundfish trips (standard deviation)	1.55 (2.16)	1.57 (2.17)	1.69 (2.28)	2.03 (2.42)	2.20 (2.54)	0.95 (0.77)
Average trip length on non-groundfish trips (standard deviation)	1.16 (1.67)	1.11 (1.66)	1.10 (1.68)	1.02 (1.56)	1.15 (1.57)	0.90 (1.53)
75' and above						
Number of groundfish trips	1,525	1,424	1,328	1,337	1,311	26
Number of non-groundfish trips	3,242	4,064	3,788	3,305	1,667	1,638
Number of days absent on groundfish trips	7,753	7,585	7,280	7,390	7,357	33
Number of days absent on non-groundfish trips	10,469	11,480	10,964	9,778	5,663	4,115
Average trip length on groundfish trips (standard deviation)	5.16 (3.16)	5.38 (3.04)	5.51 (3.03)	5.54 (2.89)	5.62 (2.84)	1.28 (2.33)
Average trip length on non-groundfish trips (standard deviation)	3.46 (3.47)	2.89 (3.17)	2.96 (3.29)	3.00 (3.37)	3.46 (3.50)	2.54 (3.18)

Table 9, continued. Effort by active vessels.

Vessel Size	2007	2008	2009	2010	2010	
					Sector Vessels	Common Pool
All Vessels						
Number of groundfish trips	27,004	26,468	26,032	14,045	11,770	2,275
Number of non-groundfish trips	46,635	46,721	46,815	47,539	20,061	27,478
Number of days absent on groundfish trips	28,158	27,146	24,947	18,818	17,216	1,602
Number of days absent on non-groundfish trips	35,186	36,134	36,397	35,220	17,785	17,435
Average trip length on groundfish trips (standard deviation)	7.63 (6.15)	7.82 (5.98)	8.06 (6.10)	8.55 (6.07)	8.70 (6.02)	3.31 (3.93)
Average trip length on non-groundfish trips (standard deviation)	5.42 (5.95)	4.78 (5.67)	4.85 (5.84)	4.82 (5.81)	5.52 (6.44)	4.21 (5.25)

Table 10. Average revenue per vessel.

Vessel Size	2007	2008	2009	2010	2010	
					Sector Vessels	Common Pool
Less than 30'						
Average all species revenue per vessel (standard deviation)	\$13,927 (\$30,894)	\$13,881 (\$36,231)	\$13,528 (\$33,122)	\$16,095 (\$40,362)	\$25,359 (\$69,122)	\$14,273 (\$32,533)
Average groundfish revenue per vessel (standard deviation)	\$3,608 (\$8,196)	\$2,711 (\$4,083)	\$5,297 (\$10,969)	\$1,531 (\$2,667)	\$3,237 (\$3,925)	\$1,341 (\$2,525)
Average all species revenue per vessel on groundfish trips (standard deviation)	\$4,969 (\$10,137)	\$3,249 (\$4,288)	\$6,912 (\$12,216)	\$1,381 (\$1,762)	\$3,212 (\$0)	\$1,294 (\$1,756)
30' to < 50'						
Average all species revenue per vessel (standard deviation)	\$137,040 (\$131,194)	\$141,382 (\$140,709)	\$138,494 (\$123,637)	\$141,688 (\$131,285)	\$175,805 (\$142,543)	\$111,361 (\$112,264)
Average groundfish revenue per vessel (standard deviation)	\$73,212 (\$91,485)	\$86,507 (\$125,943)	\$90,608 (\$108,822)	\$72,967 (\$110,601)	\$107,464 (\$123,324)	\$15,101 (\$44,142)
Average all species revenue per vessel on groundfish trips (standard deviation)	\$115,592 (\$122,914)	\$122,958 (\$140,855)	\$124,250 (\$121,155)	\$107,979 (\$120,920)	\$141,990 (\$134,910)	\$50,049 (\$57,225)

Table 10, continued. Average revenue per vessel.

Vessel Size	2007	2008	2009	2010	2010	
					Sector Vessels	Common Pool
50' to < 75'						
Average all species revenue per vessel (standard deviation)	\$362,439 (\$300,801)	\$376,895 (\$290,764)	\$375,643 (\$300,035)	\$442,281 (\$409,249)	\$515,813 (\$380,081)	\$351,615 (\$427,240)
Average groundfish revenue per vessel (standard deviation)	\$138,881 (\$168,856)	\$146,447 (\$188,581)	\$148,811 (\$212,589)	\$185,453 (\$298,155)	\$264,713 (\$331,537)	\$13,723 (\$27,719)
Average all species revenue per vessel on groundfish trips (standard deviation)	\$236,524 (\$230,306)	\$237,499 (\$232,670)	\$229,738 (\$263,157)	\$264,335 (\$347,190)	\$341,173 (\$373,999)	\$46,216 (\$44,807)
75' and above						
Average all species revenue per vessel (standard deviation)	\$825,786 (\$479,668)	\$822,356 (\$521,618)	\$804,740 (\$470,408)	\$1,052,701 (\$624,147)	\$1,149,027 (\$615,885)	\$857,641 (\$601,889)
Average groundfish revenue per vessel (standard deviation)	\$326,914 (\$369,120)	\$333,352 (\$376,081)	\$350,478 (\$397,503)	\$475,455 (\$569,980)	\$582,067 (\$582,721)	\$15,693 (\$46,920)
Average all species revenue per vessel on groundfish trips (standard deviation)	\$505,392 (\$431,175)	\$507,174 (\$423,261)	\$532,348 (\$443,868)	\$746,819 (\$616,911)	\$767,459 (\$615,993)	\$117,292 (\$102,318)

Table 11. Average revenue per trip and day absent.

Vessel Size	2007	2008	2009	2010	2010	
					Sector Vessels	Common Pool
Less than 30'						
Average revenue per groundfish trip (standard deviation)	\$534 (\$523)	\$376 (\$326)	\$554 (\$738)	\$301 (\$399)	\$3,212 (\$0)	\$272 (\$273)
Average revenue per non-groundfish trip (standard deviation)	\$478 (\$760)	\$543 (\$1,236)	\$543 (\$1,047)	\$797 (\$1,567)	\$1,490 (\$2,741)	\$600 (\$919)
Average revenue per day on groundfish trips (standard deviation)	\$1,643 (\$1,993)	\$1,248 (\$1,085)	\$1,771 (\$2,591)	\$776 (\$1,211)	\$9,636 (\$0)	\$686 (\$820)
Average revenue per day on non-groundfish trips (standard deviation)	\$1,308 (\$2,130)	\$1,510 (\$2,609)	\$1,428 (\$1,925)	\$1,874 (\$2,871)	\$2,717 (\$3,248)	\$1,636 (\$2,709)
30' to < 50'						
Average revenue per groundfish trip (standard deviation)	\$2,236 (\$2,943)	\$2,213 (\$8,060)	\$2,002 (\$3,197)	\$2,864 (\$2,762)	\$2,925 (\$2,851)	\$2,598 (\$2,324)
Average revenue per non-groundfish trip (standard deviation)	\$1,325 (\$2,214)	\$1,366 (\$3,103)	\$1,287 (\$2,927)	\$1,546 (\$2,204)	\$1,763 (\$1,870)	\$1,417 (\$2,372)
Average revenue per day on groundfish trips (standard deviation)	\$5,648 (\$11,416)	\$5,262 (\$22,042)	\$5,253 (\$11,320)	\$6,134 (\$6,864)	\$6,370 (\$7,262)	\$5,121 (\$4,657)
Average revenue per day on non-groundfish trips (standard deviation)	\$3,359 (\$5,473)	\$3,645 (\$7,530)	\$3,373 (\$9,089)	\$3,904 (\$7,026)	\$4,299 (\$6,033)	\$3,664 (\$7,556)

Table 11, continued. Average revenue per trip and day absent.

Vessel Size	2007	2008	2009	2010	2010	
					Sector Vessels	Common Pool
50' to < 75'						
Average revenue per groundfish trip (standard deviation)	\$6,503 (\$9,774)	\$6,555 (\$13,167)	\$7,033 (\$10,369)	\$11,178 (\$14,504)	\$12,386 (\$15,191)	\$3,674 (\$4,261)
Average revenue per non-groundfish trip (standard deviation)	\$5,010 (\$12,963)	\$5,185 (\$12,773)	\$4,853 (\$12,772)	\$5,691 (\$17,335)	\$6,335 (\$15,621)	\$5,162 (\$18,610)
Average revenue per day on groundfish trips (standard deviation)	\$6,010 (\$21,140)	\$5,532 (\$16,080)	\$6,960 (\$56,328)	\$7,521 (\$14,505)	\$7,887 (\$14,715)	\$5,231 (\$12,895)
Average revenue per day on non-groundfish trips (standard deviation)	\$4,811 (\$38,049)	\$5,162 (\$16,682)	\$4,557 (\$8,009)	\$5,341 (\$22,970)	\$5,735 (\$11,650)	\$5,014 (\$29,197)
75' and above						
Average revenue per groundfish trip (standard deviation)	\$28,090 (\$20,589)	\$28,176 (\$20,002)	\$28,569 (\$20,385)	\$37,761 (\$24,582)	\$38,373 (\$24,283)	\$9,022 (\$21,545)
Average revenue per non-groundfish trip (standard deviation)	\$23,437 (\$38,161)	\$22,455 (\$39,220)	\$22,384 (\$42,287)	\$29,252 (\$56,255)	\$35,043 (\$58,660)	\$23,893 (\$53,398)
Average revenue per day on groundfish trips (standard deviation)	\$7,389 (\$37,802)	\$6,049 (\$13,358)	\$6,137 (\$16,036)	\$12,202 (\$147,369)	\$12,364 (\$148,930)	\$4,620 (\$3,278)
Average revenue per day on non-groundfish trips (standard deviation)	\$8,565 (\$28,926)	\$7,791 (\$15,309)	\$7,108 (\$27,563)	\$8,631 (\$21,281)	\$8,661 (\$18,614)	\$8,603 (\$23,462)

Table 12. Number of vessels with revenue from any species (all trips).

Hailing Port State/City	Year				2010	
	2007	2008	2009	2010	Sector Vessels	Common Pool
	CT	18	13	13	12	4
MA	544	502	488	446	266	180
BOSTON	80	69	66	56	40	16
CHATHAM	46	41	44	43	31	12
GLOUCESTER	124	116	113	110	71	39
NEW BEDFORD	93	91	87	71	50	21
ME	128	116	115	107	64	43
PORTLAND	22	18	16	16	14	2
NH	70	65	62	57	37	20
NJ	67	71	63	58	2	56
NY	98	100	96	94	15	79
RI	110	104	95	88	43	45
POINT JUDITH	58	54	49	47	34	13
All Other States	47	41	41	38	13	25
Grand Total	1,082	1,012	973	900	444	456

Table 13. Number of vessels with revenue from at least one groundfish trip.

Hailing Port State/City	Year					
	2007	2008	2009	2010	2010	
					Sector Vessels	Common Pool
CT	9	8	8	7	3	4
MA	341	321	312	240	191	49
BOSTON	54	49	43	36	33	3
CHATHAM	26	27	28	25	22	3
GLOUCESTER	95	88	96	75	60	15
NEW BEDFORD	60	62	53	33	29	4
ME	78	69	63	42	37	5
PORTLAND	20	16	14	14	13	1
NH	44	42	43	32	26	6
NJ	41	34	25	20	1	19
NY	52	56	44	41	8	33
RI	78	70	60	57	34	23
POINT JUDITH	43	36	32	33	28	5
All Other States	15	11	11	11	5	6
Grand Total	658	611	566	450	305	145

Table 14. Distribution of revenue from all species (all trips).

Percent Bracket	2007	2008	2009	2010	2010	
					Sector Vessels	Common Pool
Top 10%	\$120,071,184 (40.3%)	\$115,366,308 (39.6%)	\$109,043,586 (40.2%)	\$131,382,622 (44.1%)	\$73,266,103 (37.0%)	\$51,482,840 (51.8%)
20%	\$61,814,771 (20.7%)	\$60,902,907 (20.9%)	\$54,589,638 (20.1%)	\$62,439,457 (21.0%)	\$39,900,994 (20.1%)	\$17,660,840 (17.8%)
30%	\$38,959,472 (13.1%)	\$39,045,050 (13.4%)	\$35,639,365 (13.1%)	\$36,699,004 (12.3%)	\$28,056,172 (14.2%)	\$10,966,001 (11.0%)
40%	\$27,555,633 (9.2%)	\$26,559,909 (9.1%)	\$25,101,710 (9.3%)	\$23,758,944 (8.0%)	\$18,952,396 (9.6%)	\$7,912,825 (8.0%)
50%	\$20,132,144 (6.8%)	\$19,867,036 (6.8%)	\$18,529,646 (6.8%)	\$17,157,754 (5.8%)	\$13,338,843 (6.7%)	\$5,570,203 (5.6%)
60%	\$14,465,555 (4.9%)	\$14,029,631 (4.8%)	\$13,445,015 (5.0%)	\$12,461,792 (4.2%)	\$9,173,552 (4.6%)	\$3,259,790 (3.3%)
70%	\$9,317,019 (3.1%)	\$9,218,199 (3.2%)	\$9,193,437 (3.4%)	\$8,547,356 (2.9%)	\$7,051,963 (3.6%)	\$1,639,206 (1.6%)
80%	\$4,422,445 (1.5%)	\$4,883,189 (1.7%)	\$4,267,064 (1.6%)	\$3,971,492 (1.3%)	\$5,180,072 (2.6%)	\$646,071 (0.6%)
90%	\$1,295,445 (0.4%)	\$1,398,669 (0.5%)	\$1,138,566 (0.4%)	\$1,117,157 (0.4%)	\$2,922,771 (1.5%)	\$265,991 (0.3%)
Bottom 10%	\$212,787 (0.1%)	\$208,362 (0.1%)	\$191,809 (0.1%)	\$184,292 (0.1%)	\$421,332 (0.2%)	\$51,905 (0.1%)
Grand Total	\$298,246,455	\$291,479,260	\$271,139,836	\$297,719,870	\$198,264,198	\$99,455,672
Number of vessels	1,082	1,012	973	900	444	456

Table 15. Distribution of revenue from groundfish (all trips).

Percent Bracket	2007	2008	2009	2010	2010	
					Sector Vessels	Common Pool
Top 10%	\$40,863,388 (45.9%)	\$42,305,838 (46.9%)	\$40,581,567 (47.7%)	\$48,012,218 (57.6%)	\$36,730,592 (45.3%)	\$1,745,680 (77.0%)
20%	\$18,765,739 (21.1%)	\$19,372,644 (21.5%)	\$18,002,925 (21.2%)	\$18,568,379 (22.3%)	\$17,978,988 (22.2%)	\$321,550 (14.2%)
30%	\$11,947,066 (13.4%)	\$12,094,217 (13.4%)	\$11,533,218 (13.6%)	\$8,463,421 (10.2%)	\$10,800,321 (13.3%)	\$104,136 (4.6%)
40%	\$7,723,167 (8.7%)	\$7,689,129 (8.5%)	\$7,638,111 (9.0%)	\$4,723,394 (5.7%)	\$6,213,012 (7.7%)	\$51,467 (2.3%)
50%	\$5,123,935 (5.8%)	\$4,853,479 (5.4%)	\$4,435,202 (5.2%)	\$2,354,910 (2.8%)	\$4,181,748 (5.2%)	\$26,134 (1.2%)
60%	\$2,917,968 (3.3%)	\$2,511,154 (2.8%)	\$1,993,809 (2.3%)	\$840,771 (1.0%)	\$2,629,156 (3.2%)	\$11,277 (0.5%)
70%	\$1,295,889 (1.5%)	\$948,202 (1.1%)	\$677,963 (0.8%)	\$248,824 (0.3%)	\$1,573,462 (1.9%)	\$5,339 (0.2%)
80%	\$338,378 (0.4%)	\$293,168 (0.3%)	\$180,405 (0.2%)	\$69,221 (0.1%)	\$710,411 (0.9%)	\$1,880 (0.1%)
90%	\$71,976 (0.1%)	\$58,870 (0.1%)	\$41,541 (0.0%)	\$11,514 (0.0%)	\$197,049 (0.2%)	\$542 (0.0%)
Bottom 10%	\$7,579 (0.0%)	\$5,237 (0.0%)	\$3,500 (0.0%)	\$1,015 (0.0%)	\$10,855 (0.0%)	\$68 (0.0%)
Grand Total	\$89,055,085	\$90,131,938	\$85,088,241	\$83,293,667	\$81,025,594	\$2,268,073
Number of vessels	711	662	611	497	319	178

Table 16. Number of vessels with revenue from all species by cumulative (high to low) quartile (all trips).

Percent of all species revenue	2007	2008	2009	2010
25%	55 (5.1%)	53 (5.2%)	49 (5.0%)	39 (4.3%)
50%	152 (14.0%)	145 (14.3%)	138 (14.2%)	110 (12.2%)
75%	333 (30.8%)	313 (30.9%)	305 (31.3%)	248 (27.6%)
100%	1,082 (100%)	1,012 (100%)	973 (100%)	900 (100%)

Table 17. Number of vessels with revenue from groundfish by cumulative (high to low) quartile (all trips).

Percent of groundfish revenue	2007	2008	2009	2010
25%	24 (3.4%)	23 (3.5%)	20 (3.3%)	12 (2.4%)
50%	82 (11.5%)	73 (11.0%)	66 (10.8%)	38 (7.6%)
75%	180 (25.3%)	160 (24.2%)	147 (24.1%)	84 (16.9%)
100%	711 (100%)	662 (100%)	611 (100%)	497 (100%)

Table 18. Changes in employment indicators by vessel size category (all trips).

Vessel Size	Year			
	2007	2008	2009	2010
Less than 30'				
Total Crew Positions	110	102	106	95
Total Crew-Trips	3,208	3,325	3,619	3,094
Total Crew-days	1,118	1,149	1,302	1,081
Crew-Days/Crew-Trips	0.35	0.35	0.36	0.35
30' to < 50'				
Total Crew Positions	1,084	1,014	977	928
Total Crew-Trips	83,954	78,858	81,729	68,600
Total Crew-days	43,429	40,769	39,657	34,346
Crew-Days/Crew-Trips	0.52	0.52	0.49	0.50
50' to < 75'				
Total Crew Positions	870	794	754	686
Total Crew-Trips	47,506	44,381	42,940	39,431
Total Crew-days	75,518	70,909	69,908	60,939
Crew-Days/Crew-Trips	1.59	1.60	1.63	1.55
75' and above				
Total Crew Positions	624	633	605	566
Total Crew-Trips	17,079	17,849	16,442	15,458
Total Crew-days	79,527	79,595	76,077	73,214
Crew-Days/Crew-Trips	4.66	4.46	4.63	4.74
All Sizes				
Total Crew Positions	2,687	2,544	2,442	2,277
Total Crew-Trips	151,747	144,413	144,730	126,583
Total Crew-days	199,593	192,422	186,944	169,580
Crew-Days/Crew-Trips	1.32	1.33	1.29	1.34

Table 19. Changes in employment indicators by home port state (all trips).

Home Port State	Year			
	2007	2008	2009	2010
CT				
Total Crew Positions	52	39	43	41
Total Crew-Trips	2,552	1,982	1,812	1,834
Total Crew-days	4,261	3,779	3,747	3,718
Crew-Days/Crew-Trips	1.67	1.91	2.07	2.03
MA				
Total Crew Positions	1,402	1,310	1,264	1,154
Total Crew-Trips	69,983	66,005	67,888	55,394
Total Crew-days	98,094	93,181	94,033	82,358
Crew-Days/Crew-Trips	1.40	1.41	1.39	1.49
ME				
Total Crew Positions	276	250	245	235
Total Crew-Trips	16,470	14,519	15,568	15,147
Total Crew-days	17,872	15,882	15,905	15,511
Crew-Days/Crew-Trips	1.09	1.09	1.02	1.02
NH				
Total Crew Positions	139	123	119	111
Total Crew-Trips	9,943	9,488	10,804	8,211
Total Crew-days	6,443	6,135	6,438	4,259
Crew-Days/Crew-Trips	0.65	0.65	0.60	0.52

Table 19, continued. Changes in employment indicators by home port state (all trips).

Home Port State	Year			
	2007	2008	2009	2010
NJ				
Total Crew Positions	167	185	164	150
Total Crew-Trips	13,469	13,896	11,727	11,066
Total Crew-days	12,035	12,987	11,036	10,476
Crew-Days/Crew-Trips	0.89	0.93	0.94	0.95
NY				
Total Crew Positions	204	214	215	201
Total Crew-Trips	15,358	15,228	15,355	14,751
Total Crew-days	16,656	15,975	16,612	15,070
Crew-Days/Crew-Trips	1.08	1.05	1.08	1.02
RI				
Total Crew Positions	304	281	264	252
Total Crew-Trips	19,805	17,730	16,477	15,531
Total Crew-days	32,072	29,690	26,657	26,415
Crew-Days/Crew-Trips	1.62	1.67	1.62	1.70
All Other States				
Total Crew Positions	145	144	128	132
Total Crew-Trips	4,167	5,565	5,099	4,649
Total Crew-days	12,158	14,794	12,515	11,772
Crew-Days/Crew-Trips	2.92	2.66	2.45	2.53
Total				
Total Crew Positions	2,687	2,544	2,442	2,277
Total Crew-Trips	151,747	144,413	144,730	126,583
Total Crew-days	199,593	192,422	186,944	169,580
Crew-Days/Crew-Trips	1.32	1.33	1.29	1.34

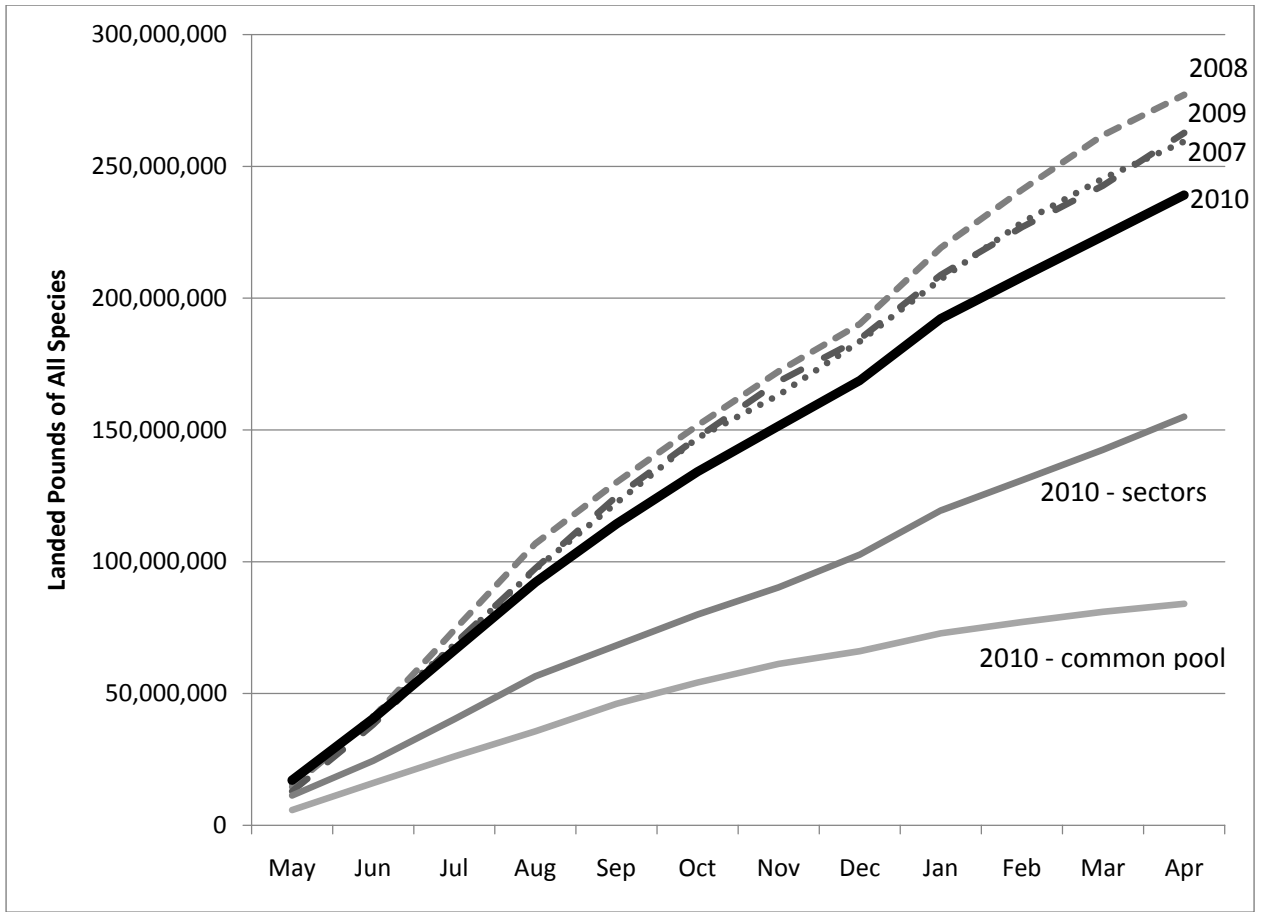


Figure 1. Cumulative landings of all species (all trips).

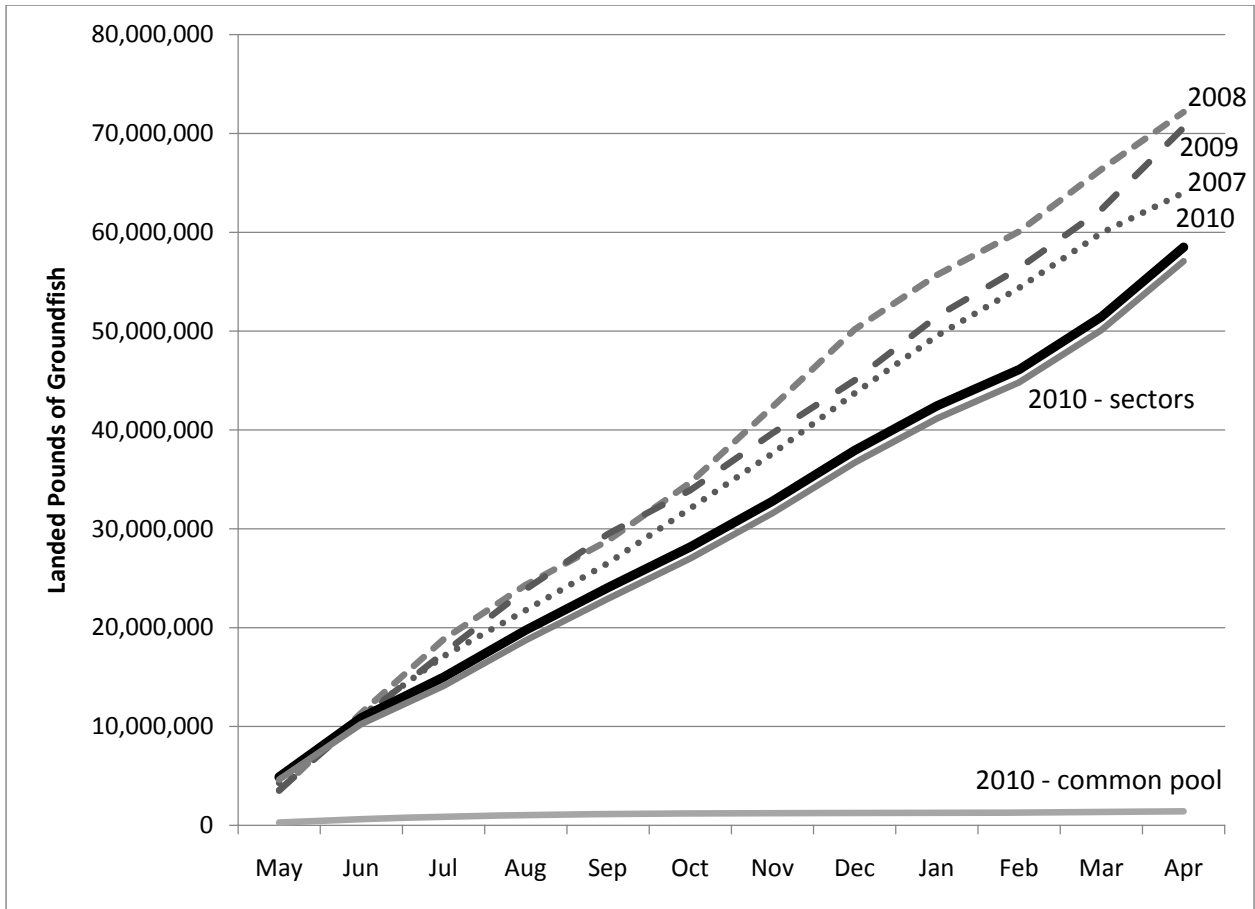


Figure 2. Cumulative landings of groundfish (all trips).

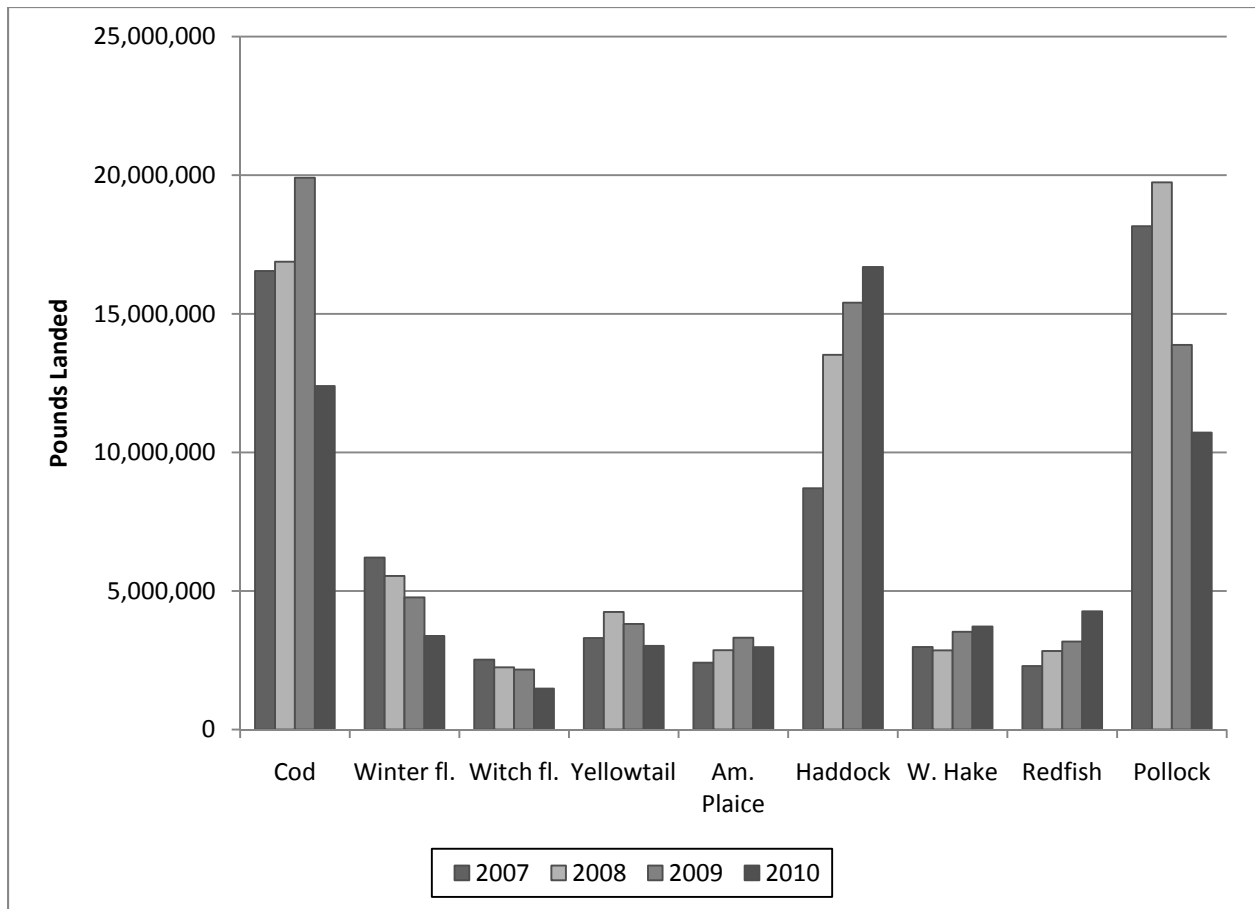


Figure 3. Groundfish landings by species (all trips).

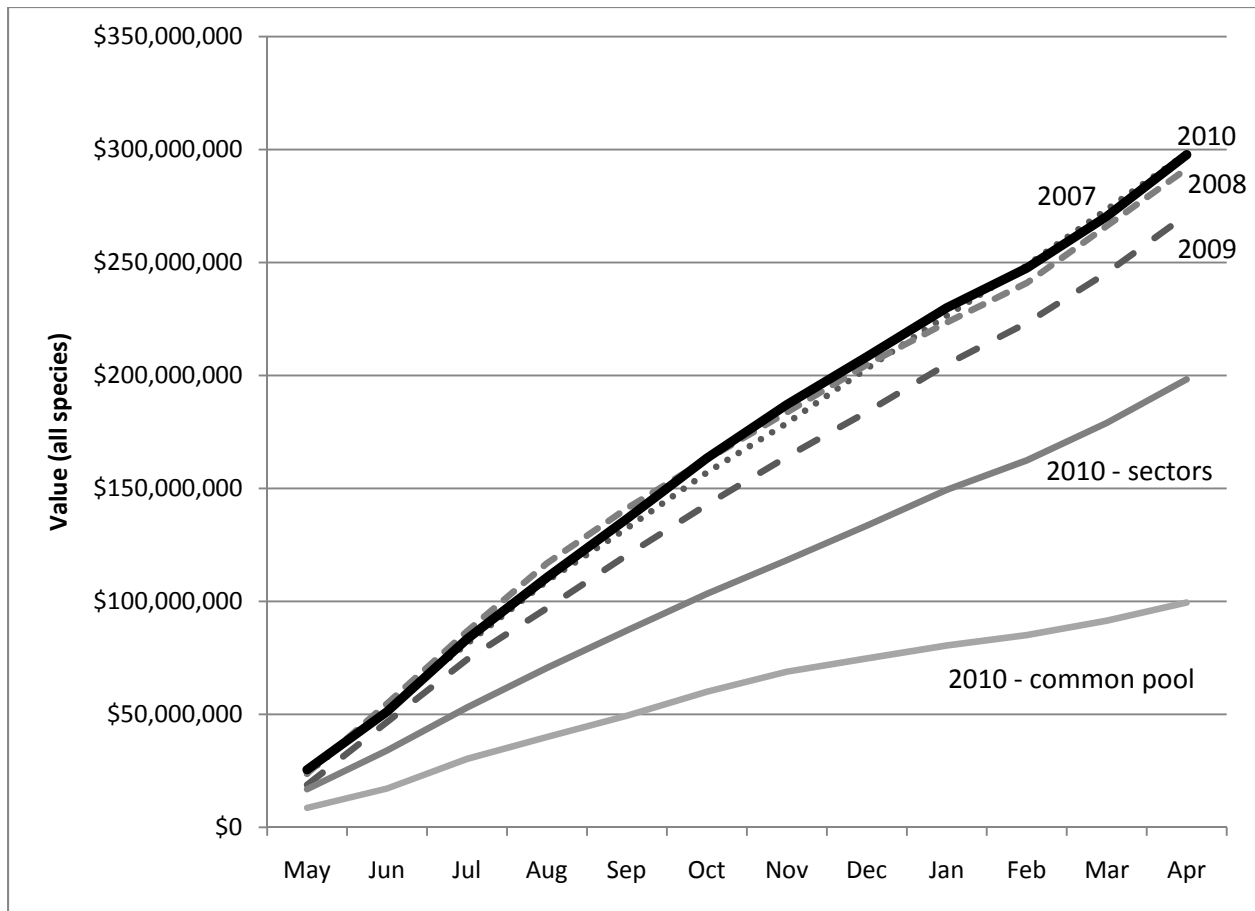


Figure 4. Cumulative revenue from all species (all trips).

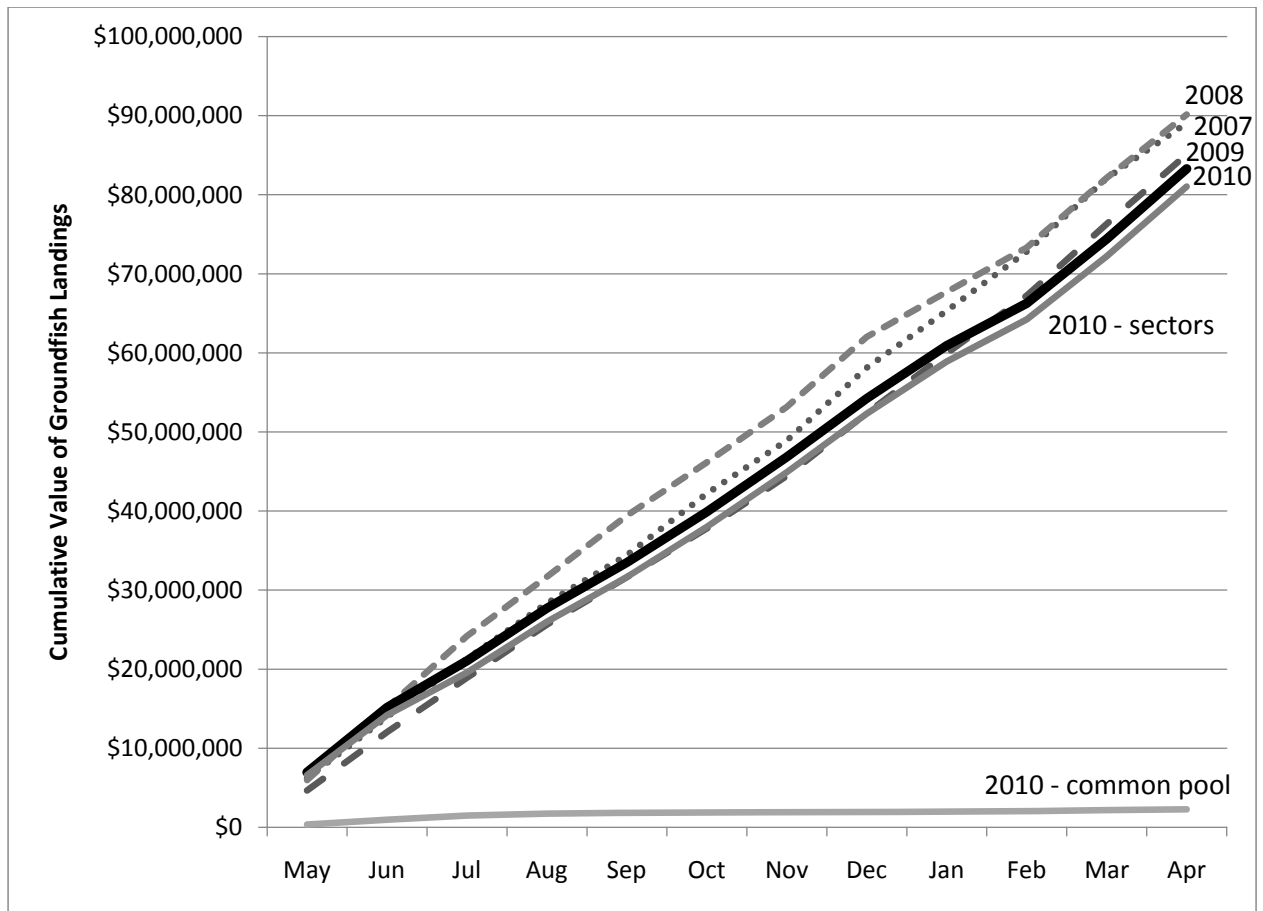


Figure 5. Cumulative revenue from groundfish (all trips).

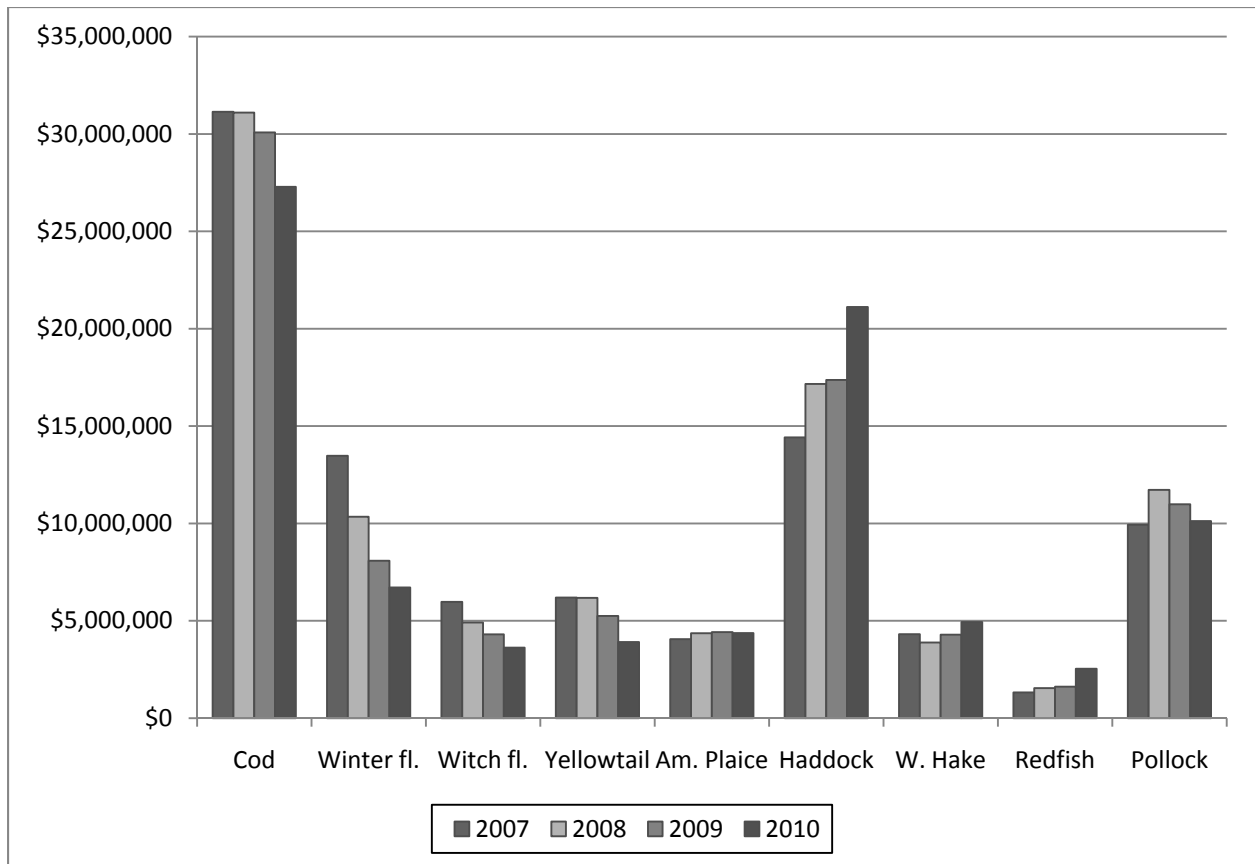


Figure 6. Groundfish revenue by species (all trips).

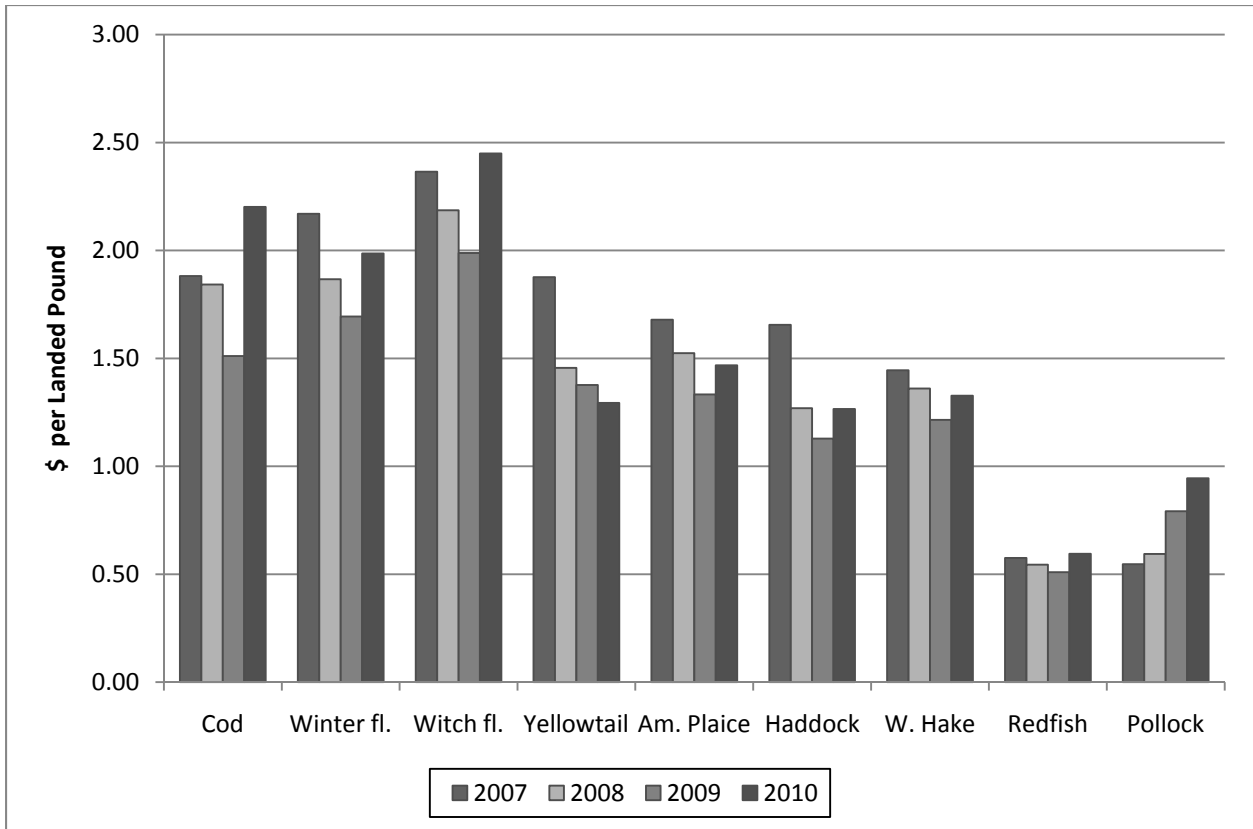


Figure 7. Yearly average price by groundfish species.

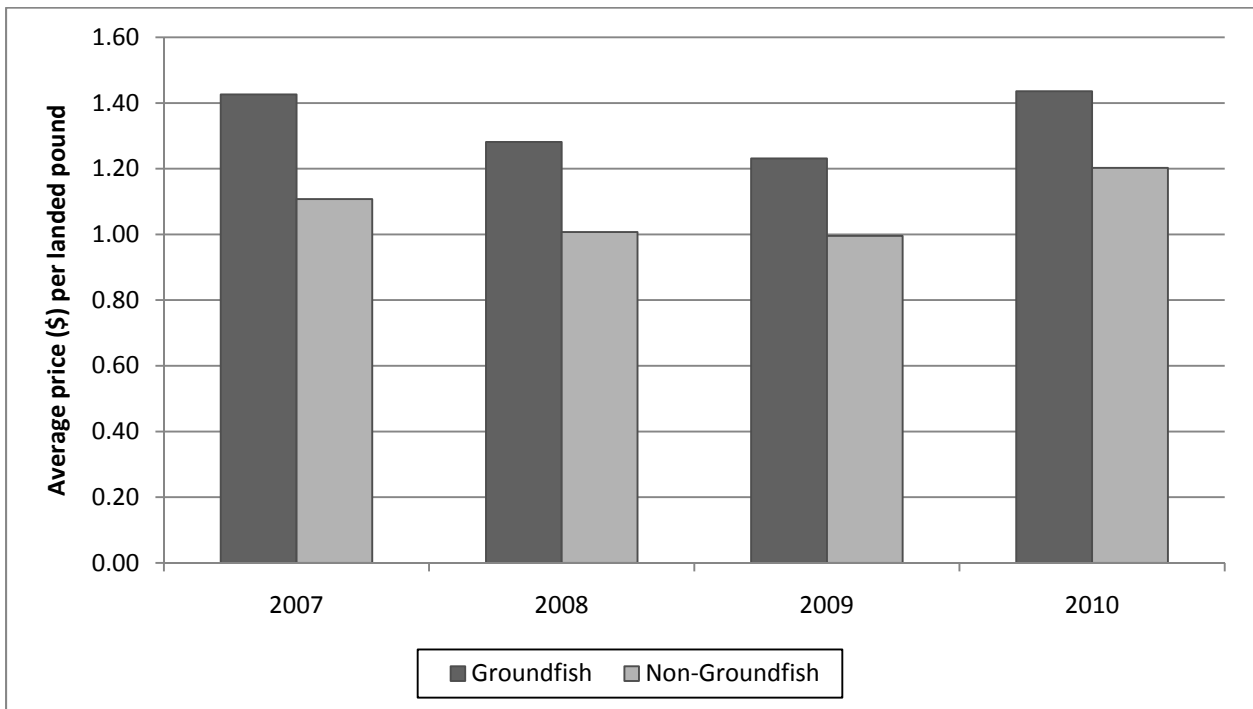


Figure 8. Yearly nominal average price of combined groundfish and nongroundfish species.

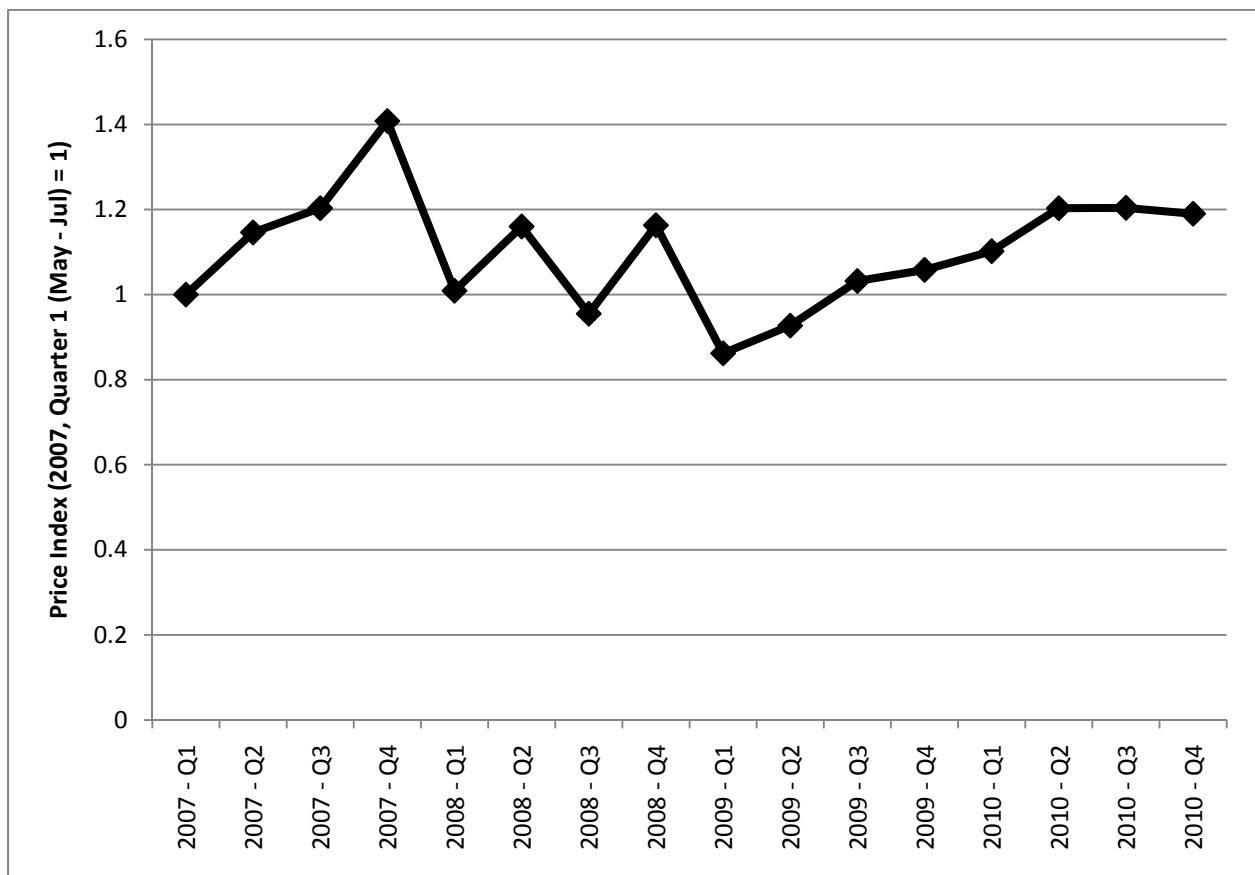


Figure 9. Quantity adjusted groundfish price index (base period = May through July, 2007).

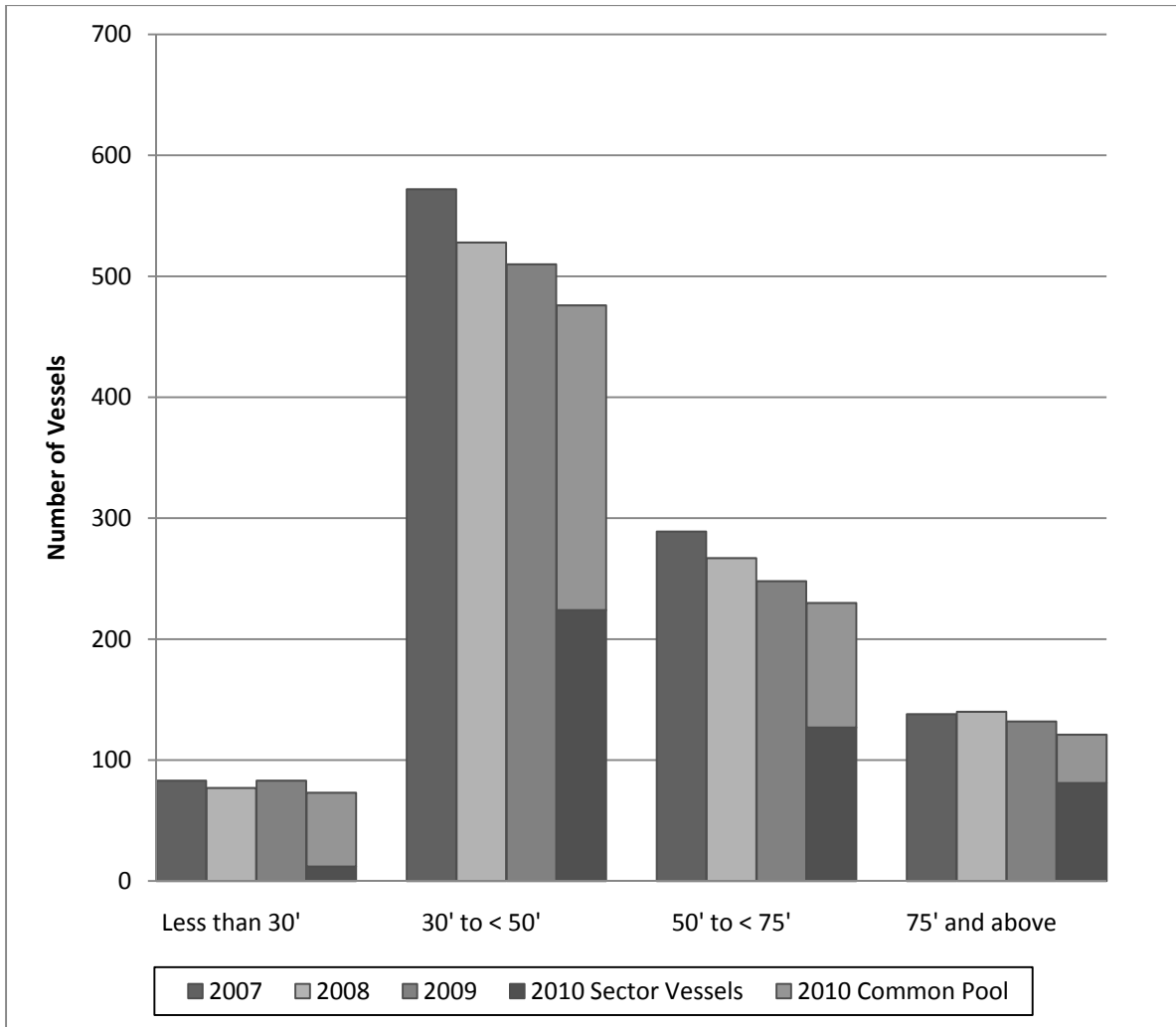


Figure 10. Number of vessels with revenue from any species by vessel size category (all trips).

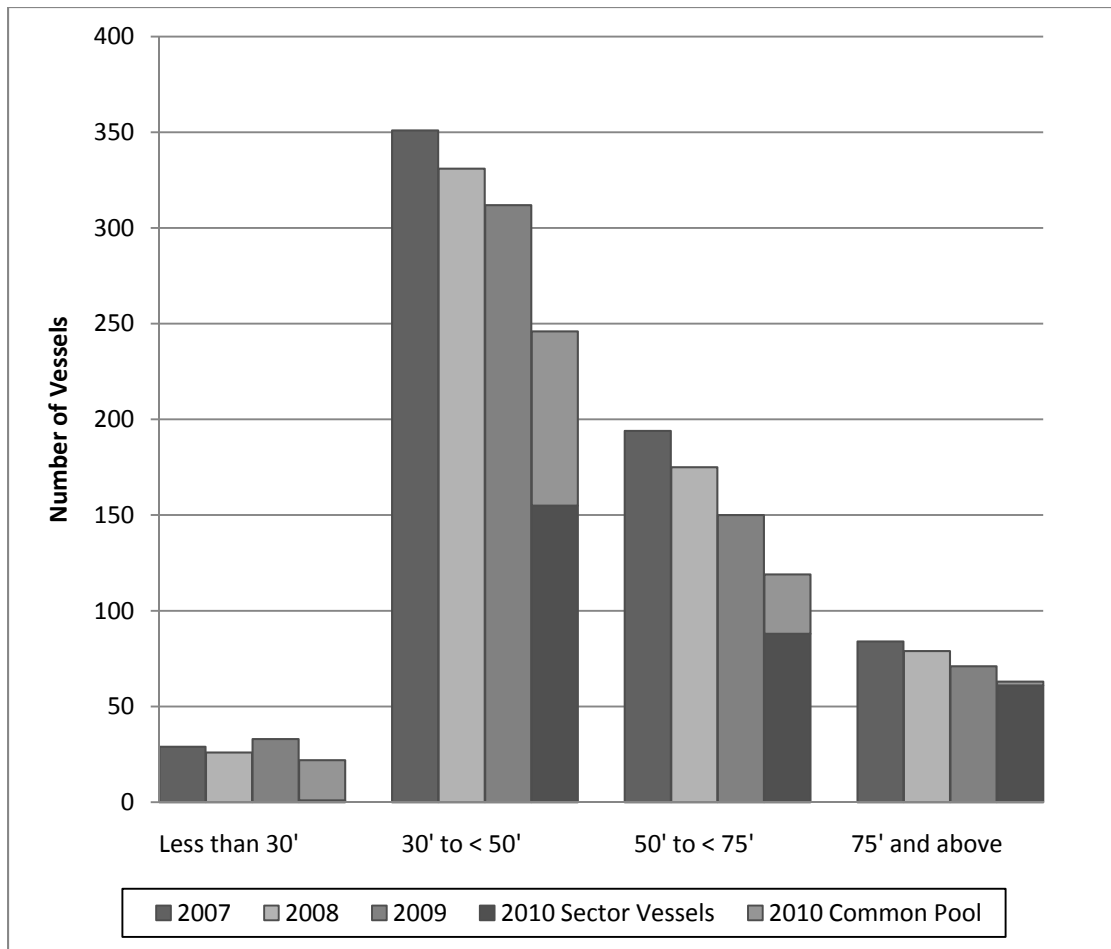


Figure 11. Number of vessels with revenue from any species on at least one groundfish trip by vessel size category.

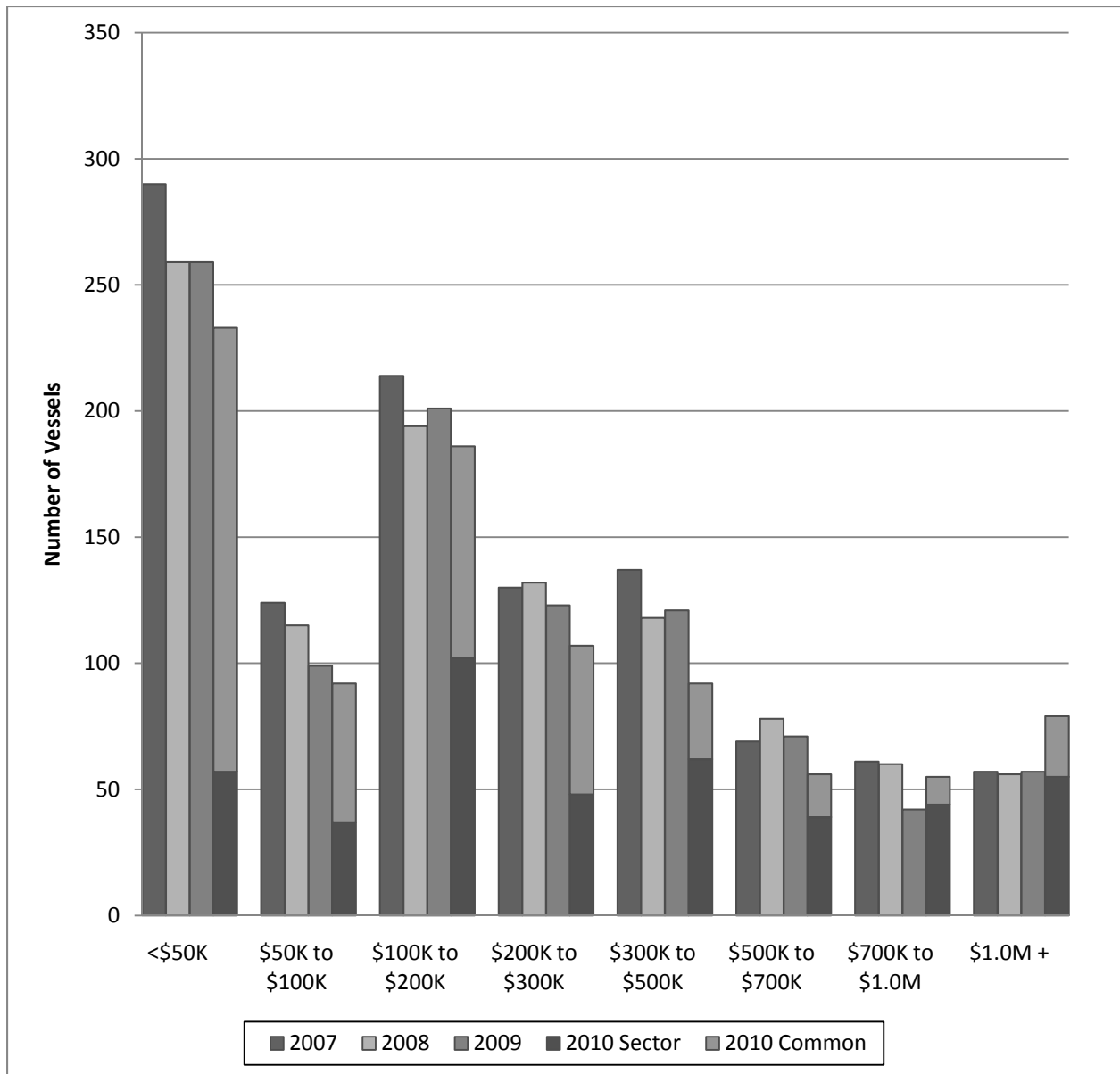


Figure 12. Number of vessels with revenue from any species by total revenue category (all trips).

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