

1.0 Economic performance of LAGC IFQ fishery (2010 – 2012)

This report provides an assessment of the economic and social performance of the LAGC_IFQ fishery and changes in the participation rates, landings, revenues, profits and ownership since the implementation of the LAGC-IFQ program. All of the numbers in the Tables and Figures exclude LA vessels with IFQ permits unless otherwise indicated.

1.1 Aggregate trends in allocations, landings and revenue

There has been a significant increase in allocations, landings and revenues for the LAGC IFQ fishery since 2010, resulting in an increase in the real scallop revenue for this fishery by 48% in 2012:

- The allocations for the LAGC IFQ fleet increased by 25% in 2011 and by 33% in 2012 fishing years, resulting in an increase in scallop landings from about 2.1 million lb. in 2010 to over 3 million lb. in 2012 (Figure 1).
- The increase in landings coupled with a rise in ex-vessel scallop prices to over \$10 per pound since 2011, led to a 58% increase in total LAGC IFQ fleet revenue in 2011 and to a 56% increase in 2012 in terms of current prices (nominal values, Figure 1 to Figure 3). Nominal scallop revenue rose from \$19.1 million in 2010 to \$29.8 million in 2012, a \$10.7 million increase since 2010 (Figure 2).
- Inflation adjusted values of scallop revenue increased 53% in 2011 and 48% in 2012 (Figure 3). Real ex-vessel scallop prices increased by 10% in 2012 compared to 2010 fishing year.

Figure 1. LAGC IFQ allocations and scallop landings (lb.)

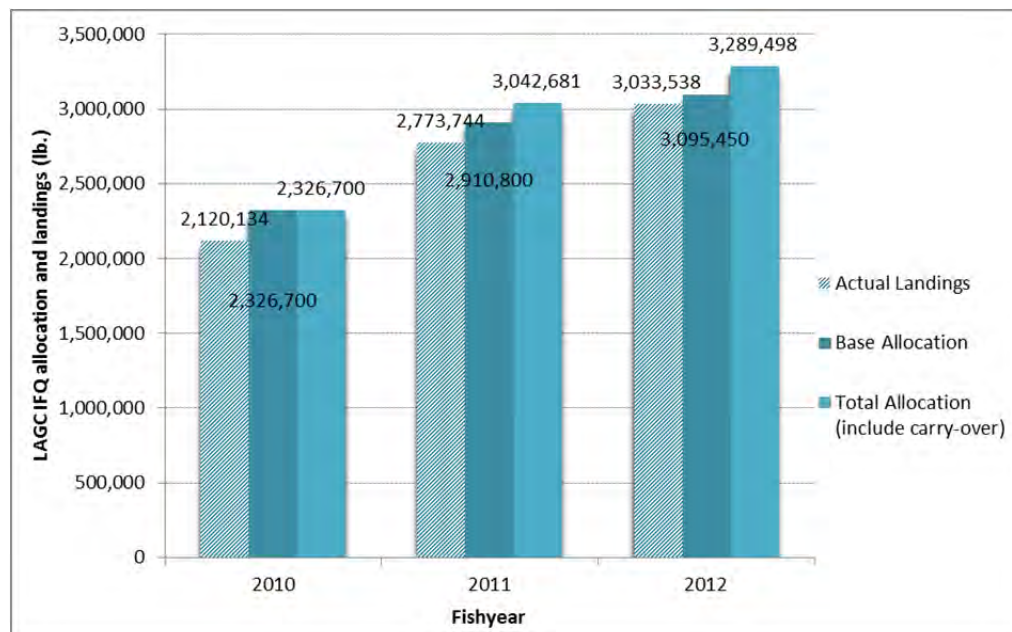


Figure 2. LAGC IFQ total scallop fleet revenue and ex-vessel price (in real and nominal values)

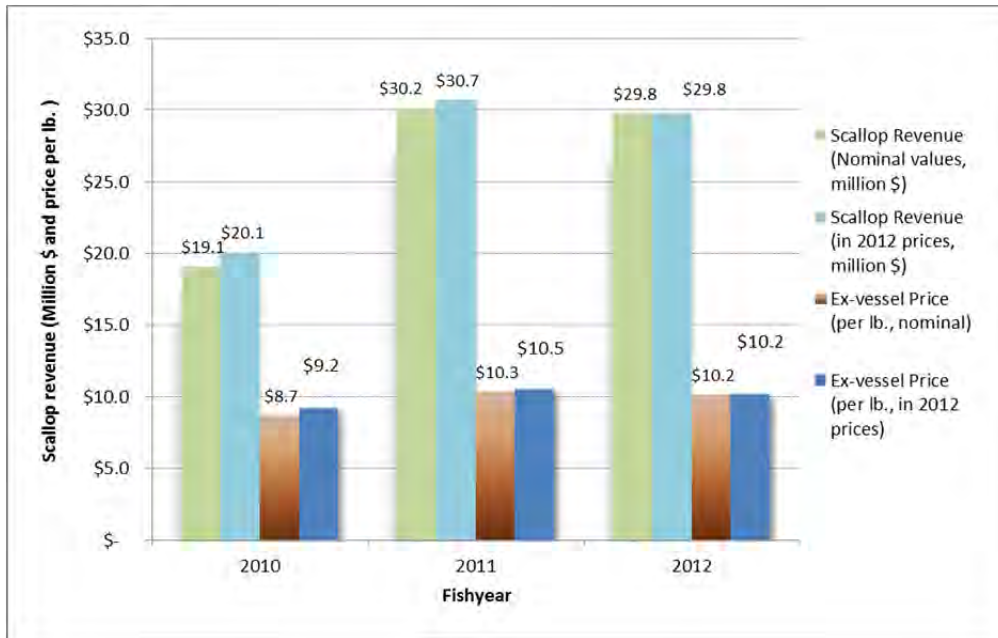
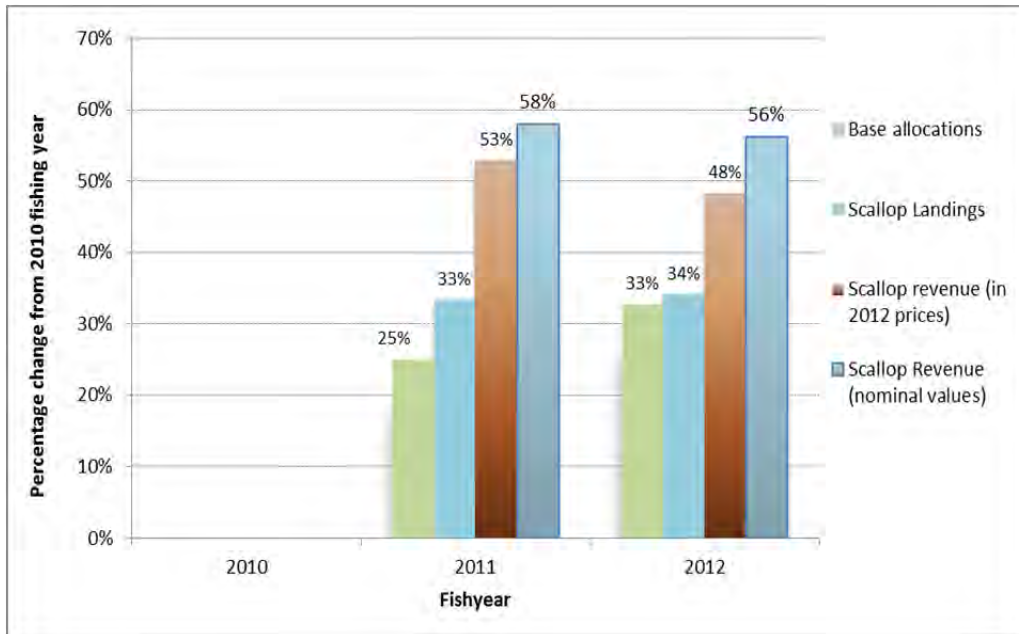


Figure 3. Percentage change allocations, landings and scallop revenue from 2010 values (per active owner)



1.2 Permits, effort and activity by vessel

The number of active vessels and owners (vessel affiliations) declined since 2010.

- Total number of active permits and permits in CPH, including those that leased out their entire IFQ to others declined from 311 in 2010 to 302 in 2012 . These numbers do not include replacement permits.
- The number for active vessels declined from 154 in 2010 to 129 in 2012 while those of inactive vessels increased from 157 in 2010 to 173 in 2012 fishing year (Figure 4).

Figure 4. Number of LAGC IFQ active permits and CPH permits by activity



- The share of active vessels in total IFQ allocation was a about 53% in 2012, down slightly from 55% in 2010 while the share of inactive vessels in total IFQ allocation increased slightly from 45% to 47% in 2012 (Figure 5). Distribution of allocation among owners are different because some of the non-active vessels are owned by active owners.
- Average scallop landings per active vessel increased from 14,398 lb. per vessel in 2010 to 23,051 lb. in 2012, or by 60%. This increase exceeded the increase in total scallop landings (34% in the same period) as effort is consolidated on fewer vessels and as some of those vessels leased IFQ from inactive vessels in addition to using their own quota to fish for scallops (Figure 6).

Figure 5. LAGC IFQ allocations by vessel activity group (as a % of total fleet allocation)

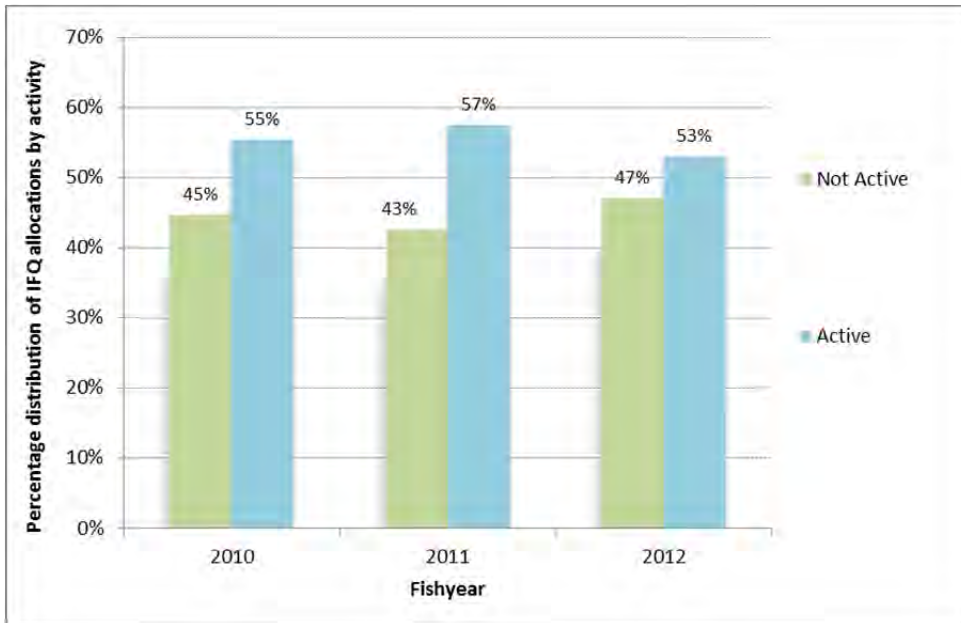
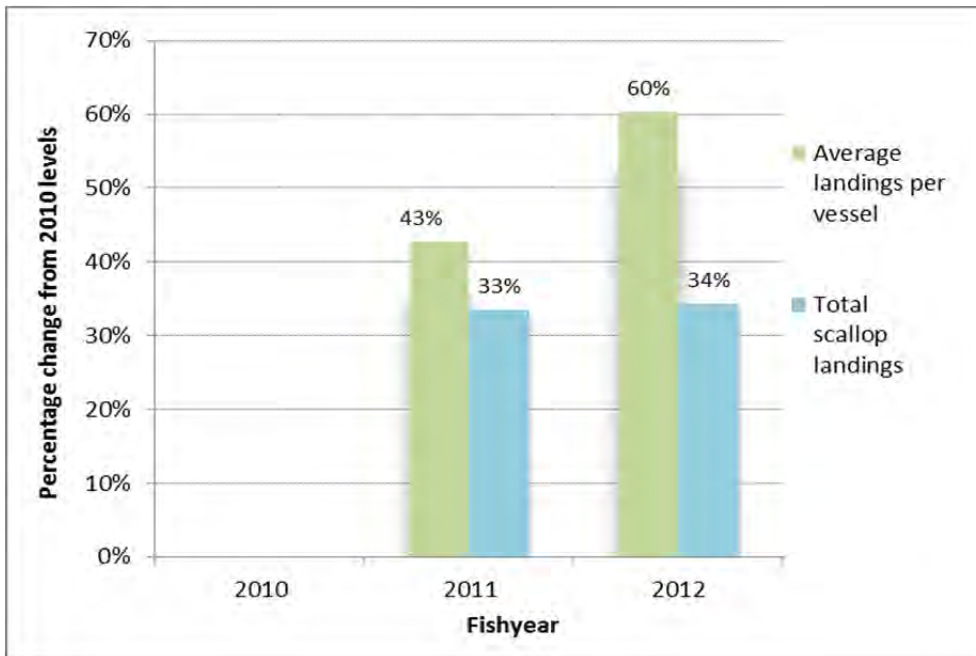


Figure 6. Percentage change in scallop landings from 2010 values (per active owner)



1.3 Activity by owners

The number of active owners with IFQ permits declined from 127 in 2010 to 107 in 2012 as effort was concentrated in fewer owners and vessels (Figure 7).

- Consistent with trends at the vessel level, the percentage share of active owners in total allocation declined from 78% in 2010 to 72% in 2012 fishing year while the allocation for the inactive owners increased from 21% to 27%. The share of active owners (72% in 2012) is greater than the share of active vessels (47%) in total IFQ allocation because active owners also own inactive vessels and use their allocation to fish for scallops (Figure 8).
- Majority of the owners that do not participate in the fishery lease out their shares. The number of owners that leased out their entire IFQ to other owners increased from 62 to 72 during the same period. Some active owners leased out part of their allocations to other owners as well and when included in the total number of owners leased out, the numbers are higher (Figure 37).
- Three owners in 2010 and 2 owners in 2012- and 2011 were active in the fishery but with no corresponding allocation were included among the active owners. In addition, there were some inactive owners (12 in 2012) that did not involve in leasing, who might have transferred quota to others later in the fishing year. (Figure 8). The share of this last group in total allocations were about 1% (Figure 8).
- Majority of the owners were single-boat owners (Figure 9 and Figure 10). There has been a greater decline in the number of single-boat active owners, however (Figure 10).

Leasing activity, gross and net revenues and distribution of income by activity are analyzed in Section 1.5.6, Section 1.7 and Section 1.8 below.

Figure 7. Number LAGC-IFQ owners by activity and leasing

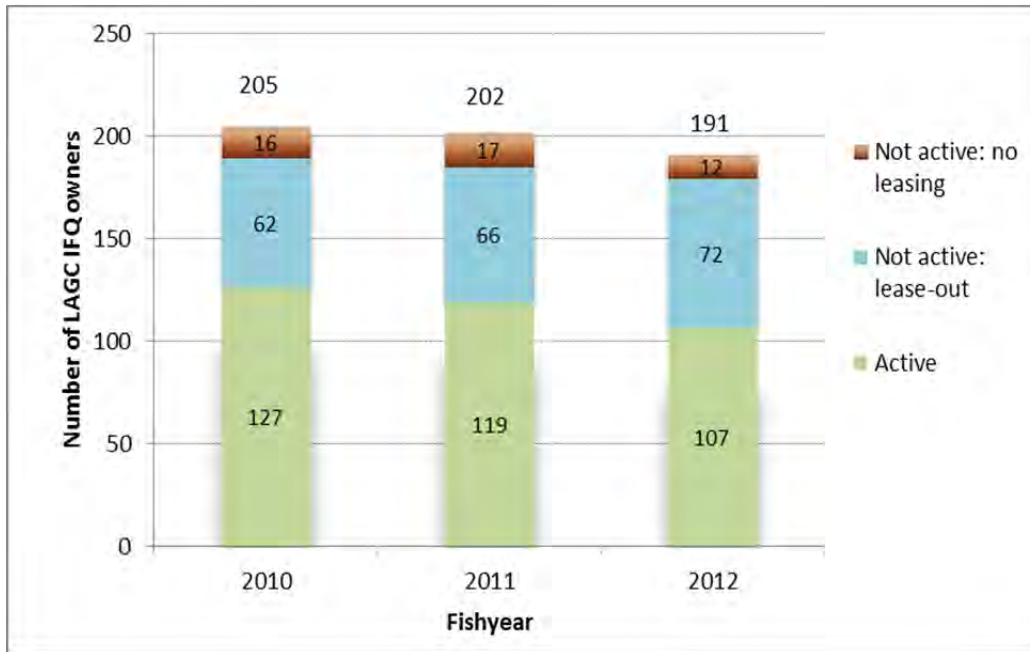


Figure 8. IFQ allocations by activity group (% of total)

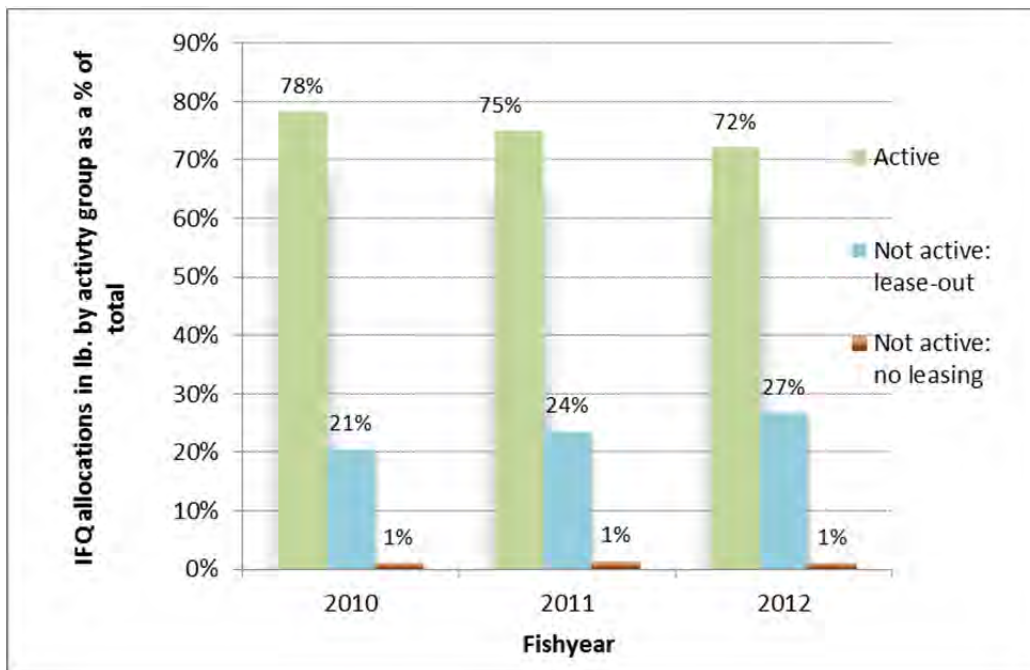


Figure 9. Owners by number of permits owned (all owners)

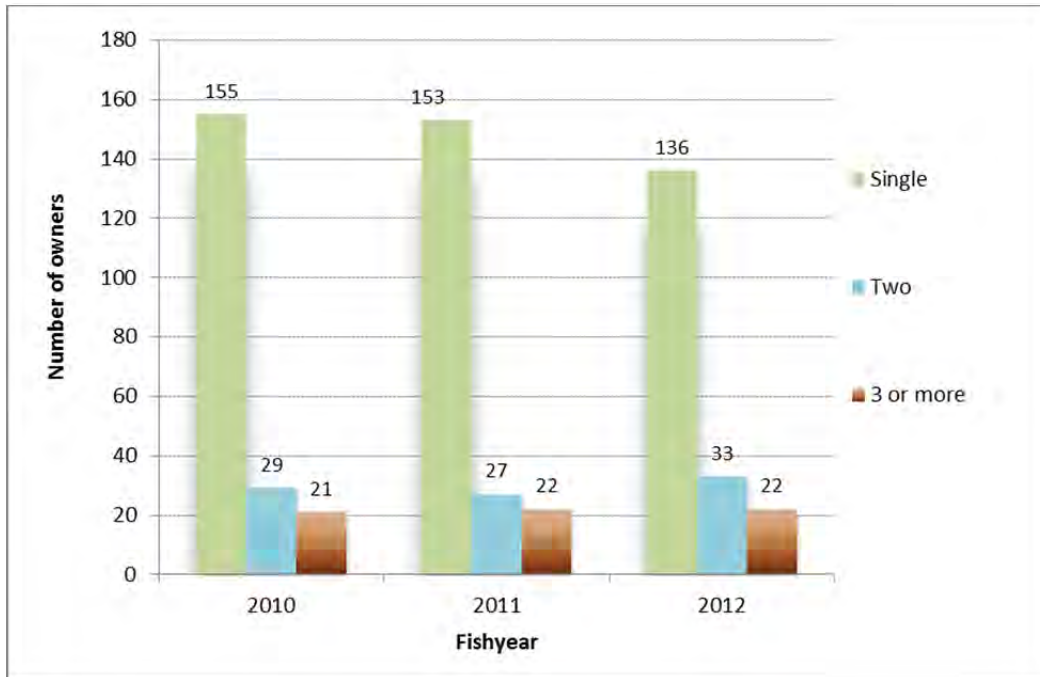
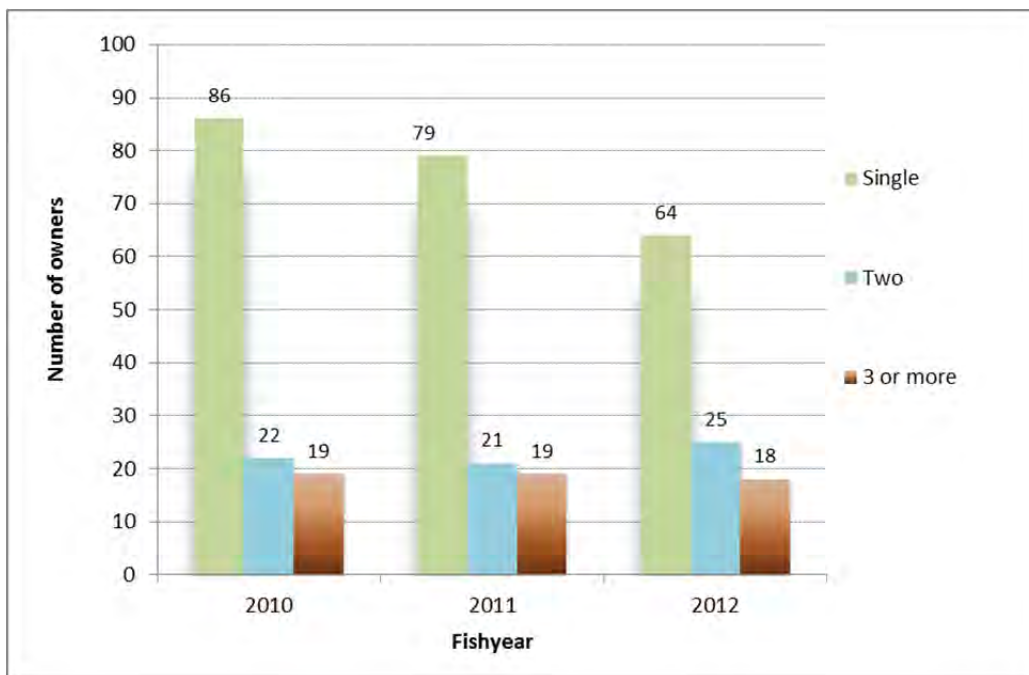


Figure 10. Owners by number of permits owned (Active owners only)



1.4 Permanent transfers

There has been a surge in the number of vessels transferring their IFQs from less than 10 in 2010 to over 40 in 2012 fishing year (Figure 11) excluding the transfers from one vessel to another owned by the same person or corporation. This year corresponded to a peak in total LAGC IFQ which translated into more pounds and revenue for each LAGC IFQ owner. The scallop ex-vessel prices averaged over \$10 per pound in the same year fueling the demand for scallop IFQ and resulting, in turn, in higher quota prices per pound of scallops. The number of IFQ transfers is not equivalent, however, to the number of exits from the LAGC IFQ fishery since not all sellers transferred their total allocations.

- In terms of total scallop pounds, permanent transfers constituted relatively small proportion of total LAGC IFQ allocations, about 5.1% in 2012 fishing year and 1% or less in the previous years (Figure 9 and Figure 10).
- Average price of transferred pounds in inflation adjusted 2012 prices increased from \$13.2 per pound in 2010 to \$33.1 per pound in 2013 fishing year, or by 150%. During the same period, ex-vessel prices (in inflation adjusted 2012 prices) increased by 42% (Figure 11 and Figure 15). It must be pointed out that the permanent transfer data do not include price information for each transaction. There is also a variation in prices each year. For example, IFQ prices ranged from \$10 to \$34 in 2012 fishing year (Figure 14).
- According to the preliminary estimates provided by GARFO, the number of transfers so far in 2014 fishing year (21 transfers) was higher than the number of transfers that took place during the same months last year (9 transfers). Majority of these transfers were 3000 lb. or less and were sold at a price of about \$41 per lb.

Figure 11. Number of permanent IFQ transfers by vessel by fishing year (excludes transfers of quota from one vessel to another owned by the same person or corporation)

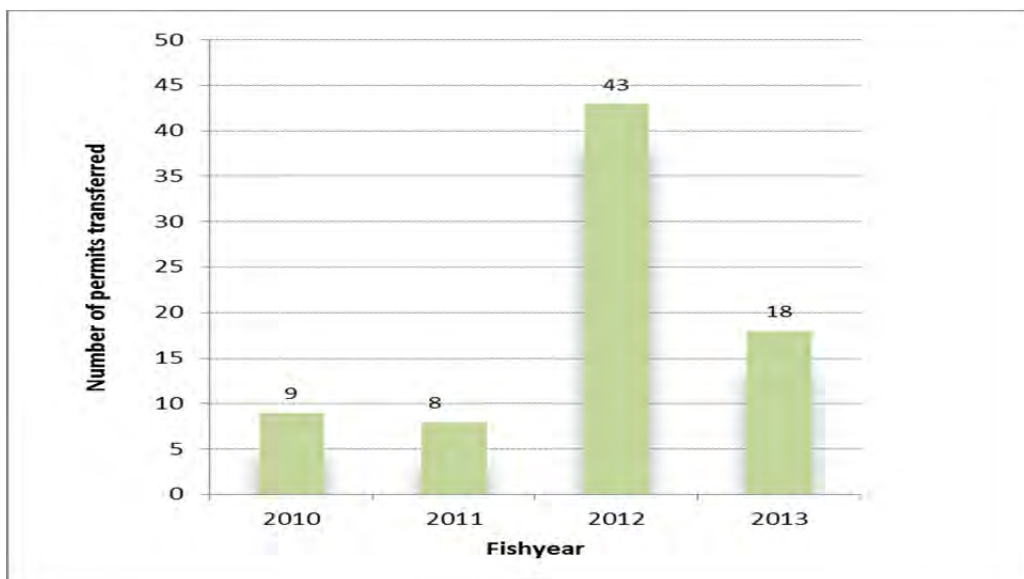


Figure 12. Permanent transfers as a percentage of total LAGC IFQ allocation (excludes transfers of quota from one vessel to another owned by the same person or corporation)

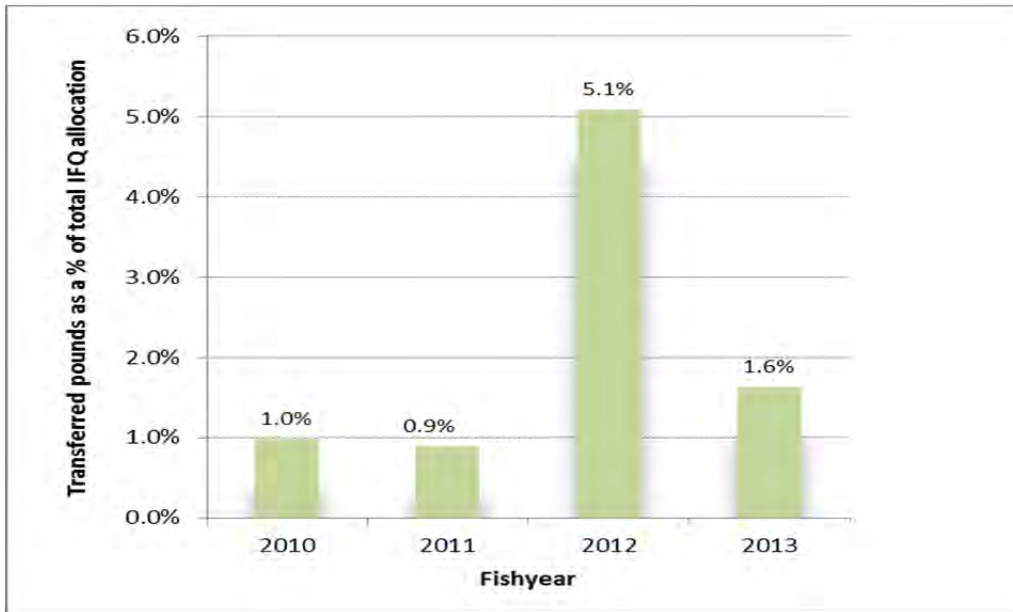


Figure 13. IFQ and ex-vessel price per.lb. of scallops (in inflation adjusted 2012 values, excludes price of transfers of quota from one vessel to another owned by the same person or corporation)



Figure 14. Range of IFQ prices per lb. for 2012 fishing year (nominal values, excludes price of transfers of quota from one vessel to another owned by the same person or corporation)

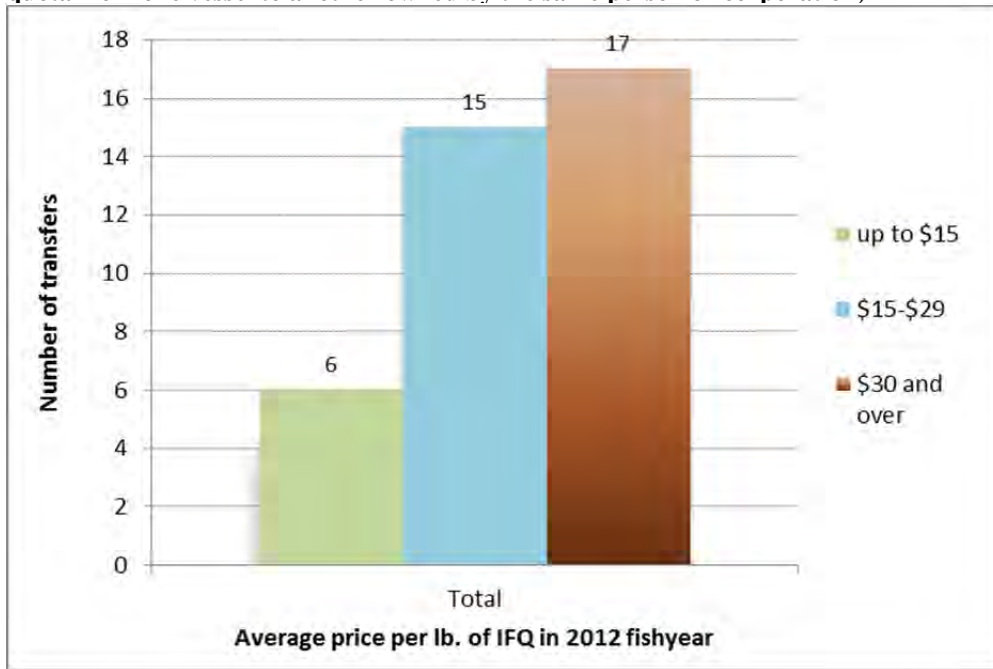
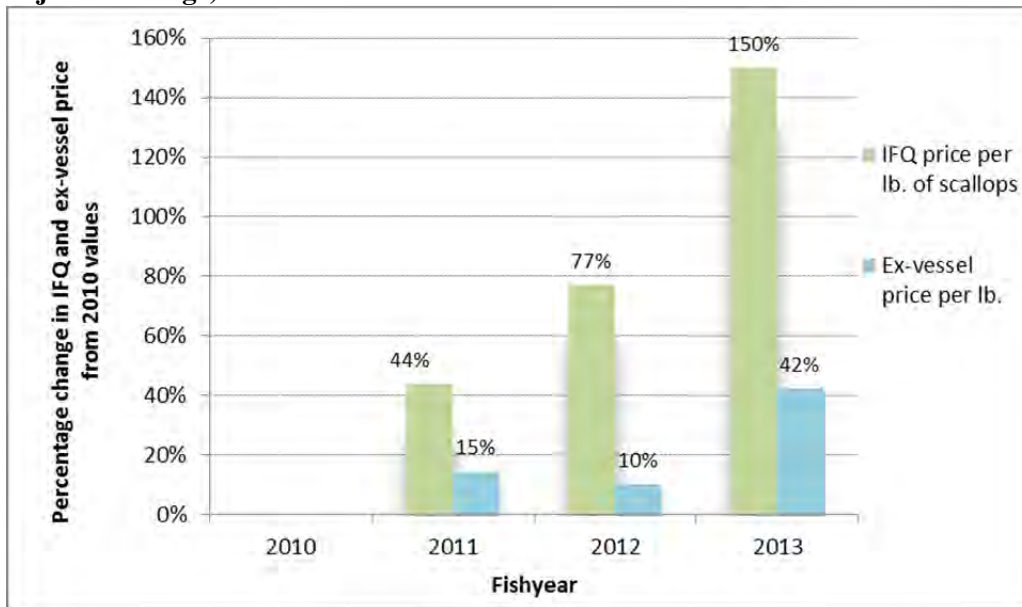


Figure 15. Percentage change in IFQ and ex-vessel price from 2010 values (in 2012 inflation adjusted change)



- In terms of ownership, a few IFQ owners sold a part of their IFQ while buying IFQ from others. In Figure 16, the owners are grouped according to whether they were net sellers or buyers of the quota based on the value of their net transfers, i.e., (IFQ bought – IFQ sold). For example, if an owner solely transferred IFQ from one vessel to another he owned, then

that owner included in the ‘No net transfer’ group. It is estimated that about 3 owners in 2010, 10 owners in 2011 and 36 in 2012 fishing year sold their IFQ to other owners (Figure 16).

Figure 16. Number of IFQ owners by transfer group



Note: Above figure excludes transfers of quota from one vessel to another owned by the same owner and those active owners with no IFQ allocations – 3 in 2010 and 2011 and 2 in 2012.

1.5 Trends in leasing

1.5.1 Introduction

Extensive use of leasing IFQ is probably one of the most noticeable changes that took place in the general category fishery since the full implementation of Amendment 11 in 2010 fishing year.¹ Since then, there has been an increase both in the total amount of IFQ leased out as well as in the number of leasing transactions and owners who leased out their allocations.

- During 2010-2012, total scallop IFQ leased out to vessels that belong to different owners increased from about 0.8 million lb. in 2010 to about one million lb. in 2012 amounting to 32% of the total LAGC IFQ allocation in the same year. If the transfers of IFQ from one vessel to another owned by the same person or corporation were included in the leasing

¹ This document uses the term ‘leasing’ interchangeably with the term ‘temporary IFQ transfers’. The term ‘leasing’ was used more often than the later term, however, because of its brevity.

activity, leased pounds would be higher, over 1 million lb. in 2010 and about 1.4 million lb. in 2012 (Figure 17).

- Majority of the both lease-out and lease-in transactions took place between different owners. There were 104 transactions in 2010 and 119 in 2012 fishing year that involved leasing to different owners and 59 transactions in 2010 and 65 transactions in 2012 that involved leasing from different owners (Figure 18 and Figure 19).

Figure 17. Base allocations and net leased pounds (all transactions including leasing among same owners)

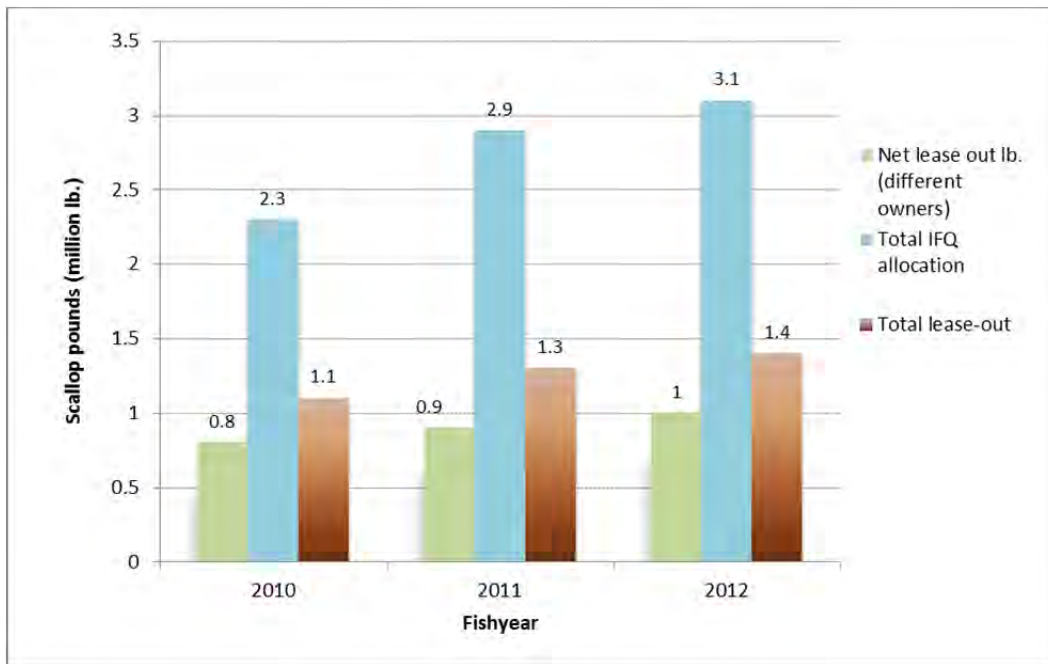


Figure 18. Number of lease (out) transactions (excluding 3 to 4 transactions involving both the same and different owners)

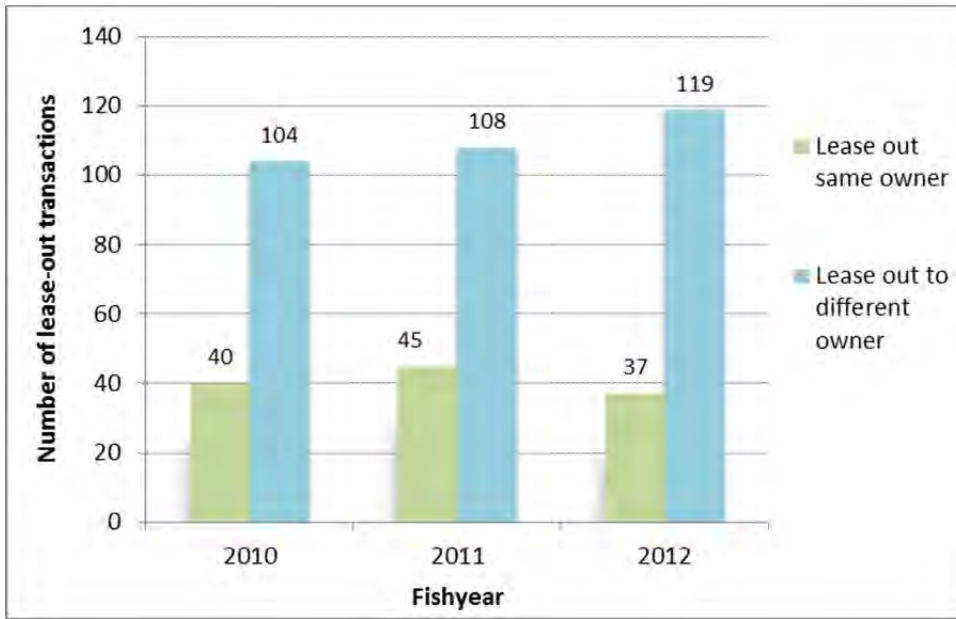
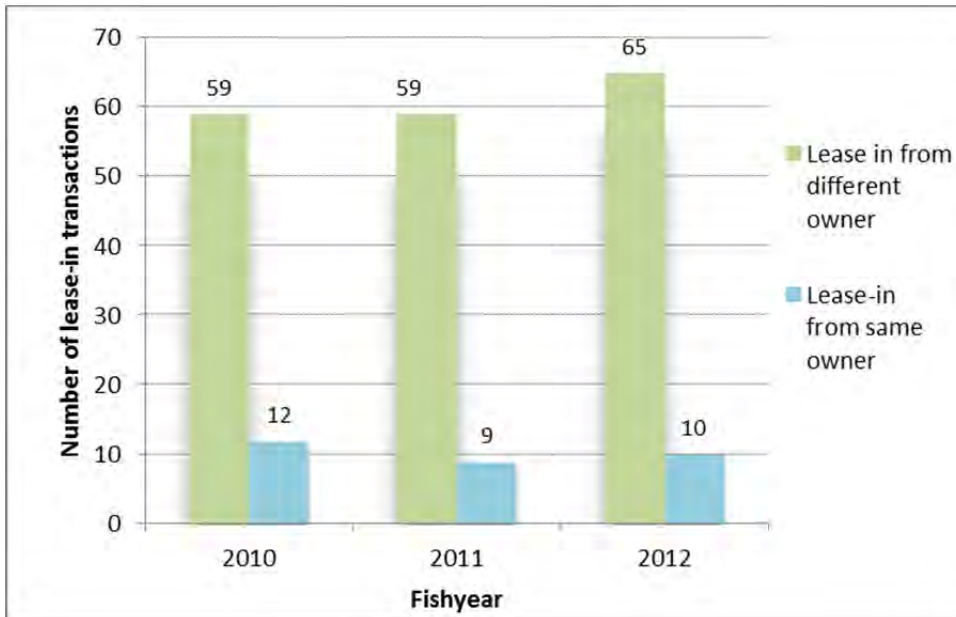


Figure 19. Number of lease-in transactions



1.5.2 Lease prices

The leasing data includes total price paid for the pounds leased out and leased in for most of the vessels involved in those transactions. As indicated in the previous section, majority of these transactions involved different owners whereas some represent a temporary transfer of IFQ from one vessel to another owned by the same person or corporation. The data show that the lease price reported for transactions that took place among different owners were considerably higher than the price of transfer of IFQ among vessels with the same owner.

- Data also included a small number of observations with a price less than \$1 especially for the second category of transfers, perhaps was reported as a symbolic amount for the leasing that took place. The differences in price when all the transactions are included versus when only those transactions that took place between same owners with (and those with a price of \$1 or higher are included) could be seen by comparing Figure 20 with Figure 21.
- As expected, the lease-in prices for transactions involving two different owners are higher (\$1.73 in 2010 and \$2.84 per pound of leased amount in 2012 fishing year, Figure 21) than compared to prices when all leasing transactions are included (Figure 20). These values are closer in value with the anecdotal information obtained from the industry indicating that price of leasing increased from about \$1.8 per pound in 2010 to about \$3.3 per pound in 2012 fishing year.
- Both Figure 20 and Figure 21 indicate that average lease price reported by owners who leased out was greater than the lease-in price reported by owners who leased in their IFQ. One reason for this discrepancy might be that there were fewer owners that leased-in than number of owners who leased-out IFQ who also reported a price for lease.
- There were also differences in the price composition of the reported price by owners who leased-in versus who leased-out. In both cases, the number of transactions with a lease price if \$2.5 or higher increased significantly in 2012 compared to 2011 fishing year resulting in higher average lease price . For the majority of transactions, average lease-in price ranged from \$1 to over \$2.5 per lb. of scallops in 2011-2012 fishing years due to the differences in the nature of entities (individual fishermen, brokers, fishing cooperatives) as Figure 22 and Figure 23 indicate.

Figure 20. Lease price per lb. of leased IFQ (Nominal values, All transactions)



Figure 21. Lease price per lb. of leased IFQ (Nominal values, lease transactions between different owners)

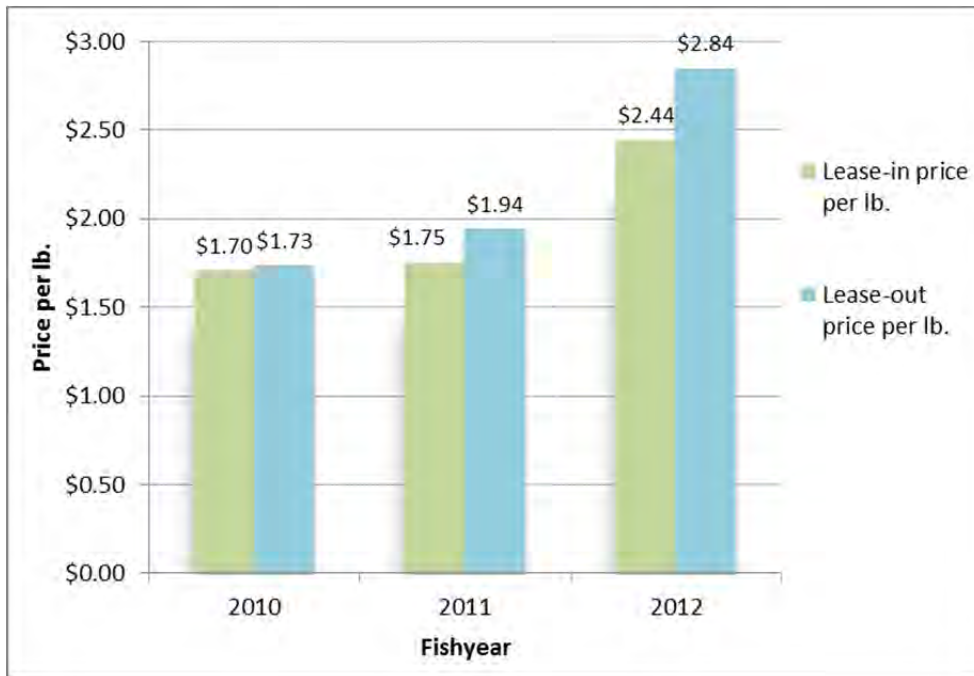


Figure 22. Range of lease-out price per lb. of leased IFQ (all transactions, nominal values)

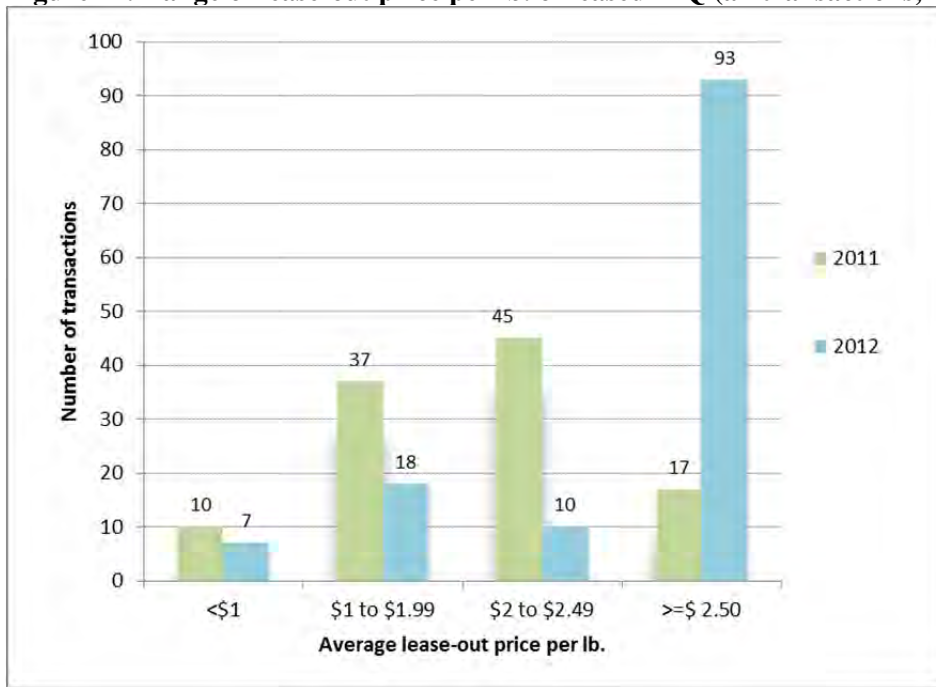
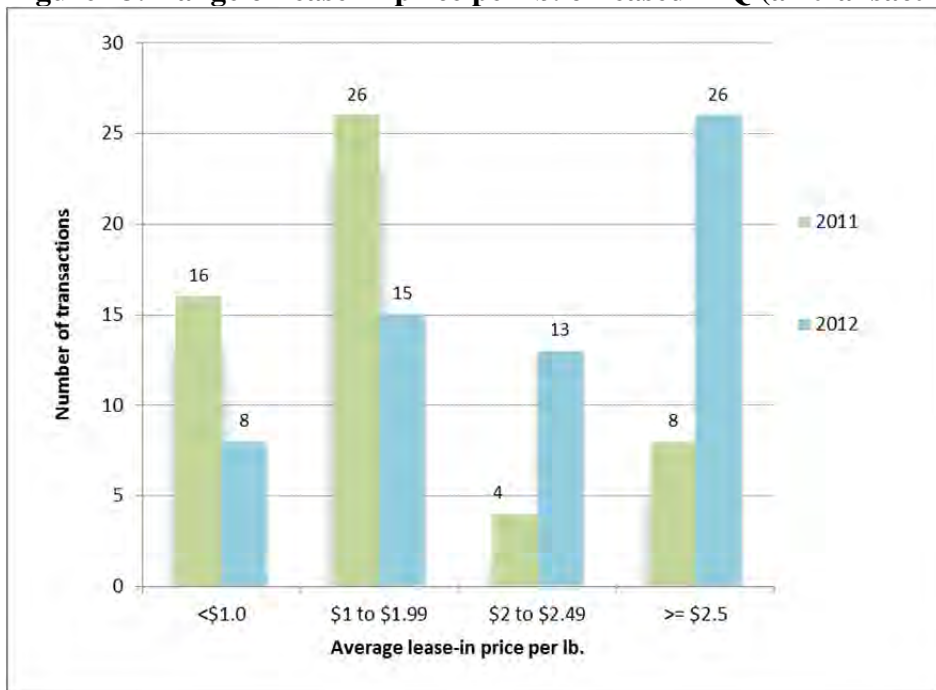


Figure 23. Range of lease-in price per lb. of leased IFQ (all transactions, nominal values)



1.5.3 Leasing out by vessels

The following provides an analysis of leasing or temporary transfers by vessels or permits in CPH involving both different and same owners. Some active vessels both leased out and leased in during the same year, however, they were grouped according to their net lease activity in some of the figures below.

- The number of vessels with an active permit that leased out all or part of their IFQ declined from 113 in 2010 to 93 in 2012, while the number of those with a permit in CPH increased from 29 in 2010 to 69 in 2012. These numbers includes vessels that leased out to the same owner (Figure 24).
- In 2012 fishing year, the vessels with an active permit leased out 40% and those with a permit in CPH leased out 60% of the total lease out pounds. Again, these numbers includes vessels that leased out to the same owner (Figure 25).
- 62 out of 93 vessels that leased out scallop IFQ to other vessels had a dredge gear (Table 1).
- Overall, the number IFQ vessels that leased out their allocations to other vessels increased from 142 in 2010 fishing year to 162 in 2012 fishing year (Figure 27).
- This group of vessels received 54% of the total IFQ allocations in the same fishing year (Figure 28). However, part of the leasing activity involved transfer of pounds from one vessel to another owned by the same person or corporation to reduce the costs of fishing by consolidating the quota on fewer vessels.
- Not including those vessels that both leased-in and leased-out different or same owners, In fishing year 2010, 88 vessels out of 117 leased out their allocations to vessels owned by other owners and in 2012, 117 out of 153 leased out their allocations to the vessels owned by different persons or corporations (Figure 30). A small group of vessels leased part of their allocations to vessels owned by the same person and part to vessels owned by others.
- Massachusetts came at the top of the list of states in terms of number of vessels leasing out (or transferring) their IFQs to other vessels, followed by New York and New Jersey combined. The number of vessels leasing out their IFQ in New England area exceeded those from Mid-Atlantic states (Figure 31). Section 1.11 below provides more information about geographical trends involving leasing activity.

Figure 24. Number of vessels that lease-out IFQ (includes vessels that lease out to the same owner)

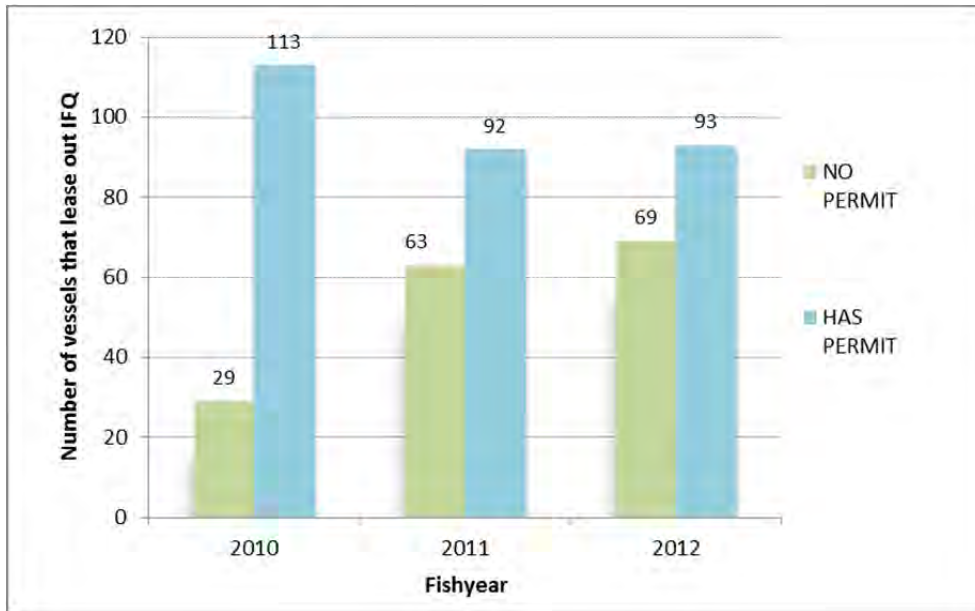


Figure 25. Percentage share in net leased out pounds (includes vessels that lease out to the same owner)

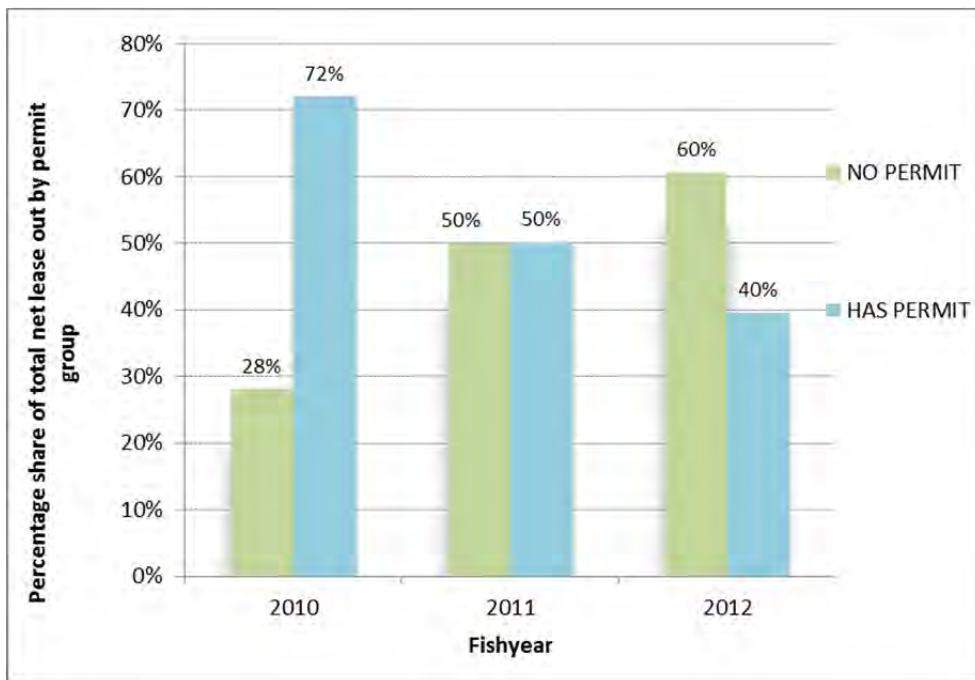


Figure 26. Number of vessels that lease-out IFQ that leased out different owners

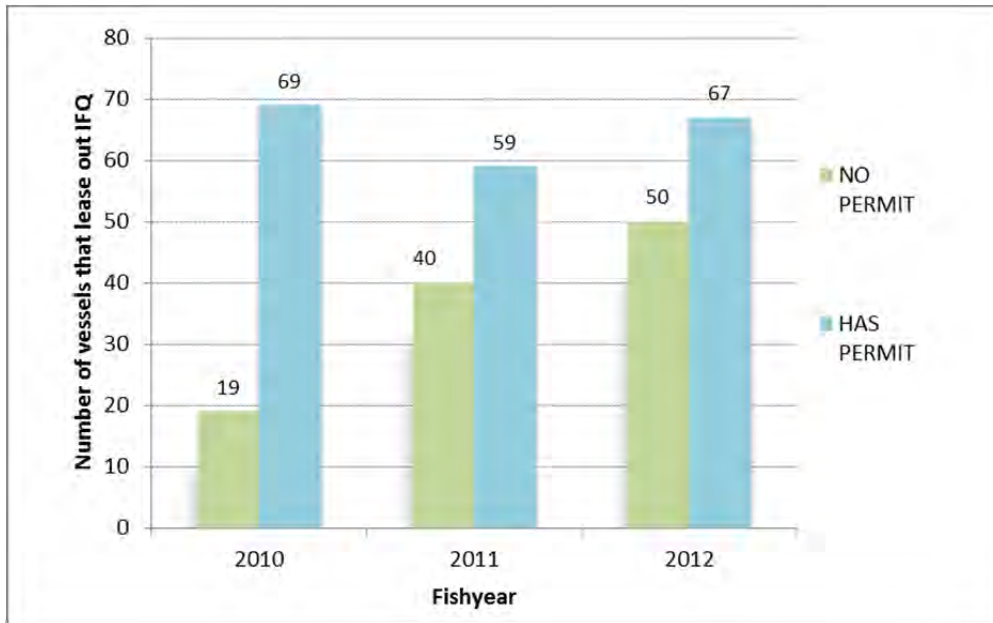


Table 1. Number of vessels with active permit that leased out to other vessels by gear type (includes all vessels)

Fishyear	Dredge	No Dredge	Grand Total
2010	84	29	113
2011	64	28	92
2012	62	31	93
Grand Total	210	88	298

Figure 27. Number of LAGC IFQ vessels involved in leasing activity

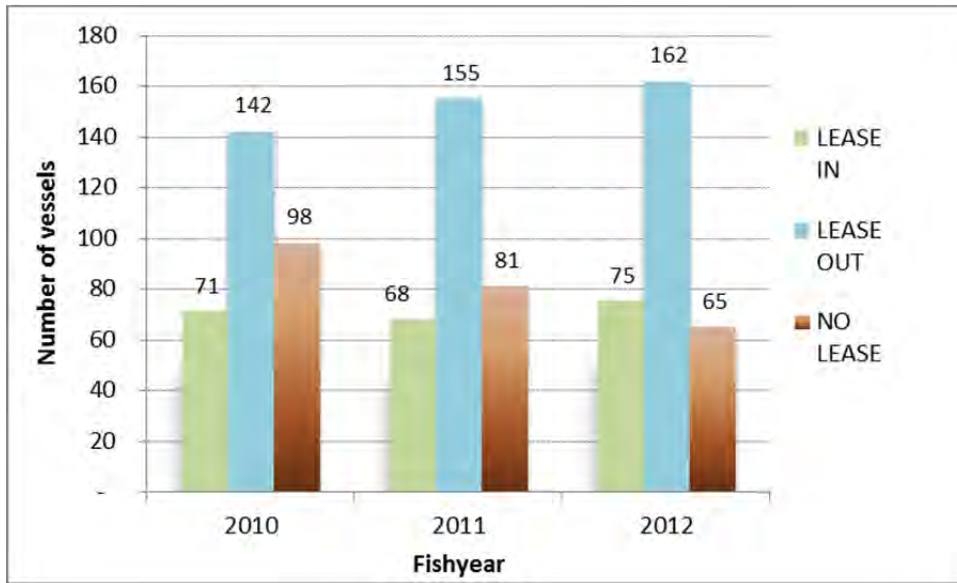


Figure 28. Percentage share of allocations by leasing activity

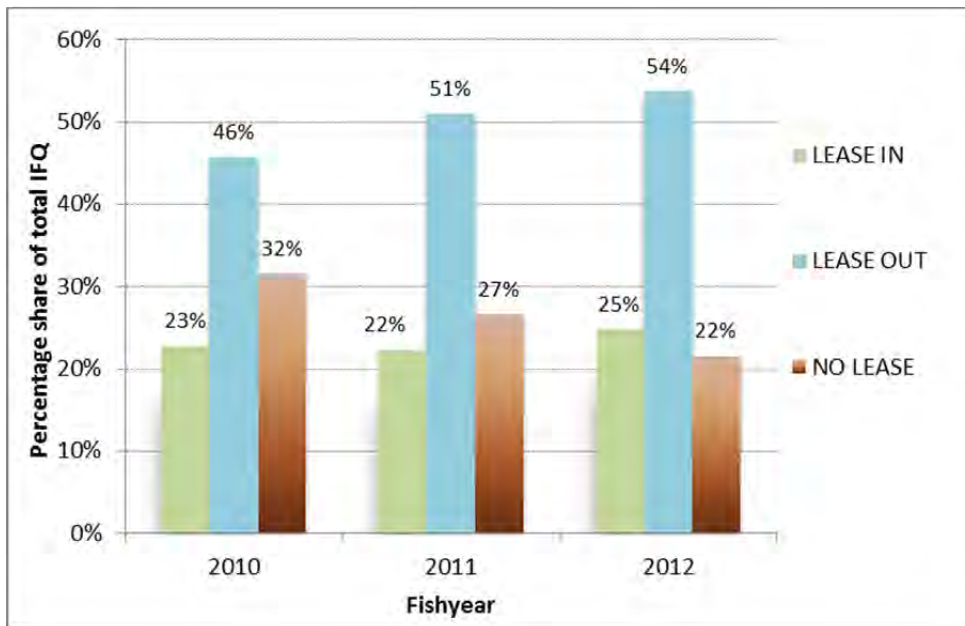


Figure 29. Percentage share of landings by leasing activity

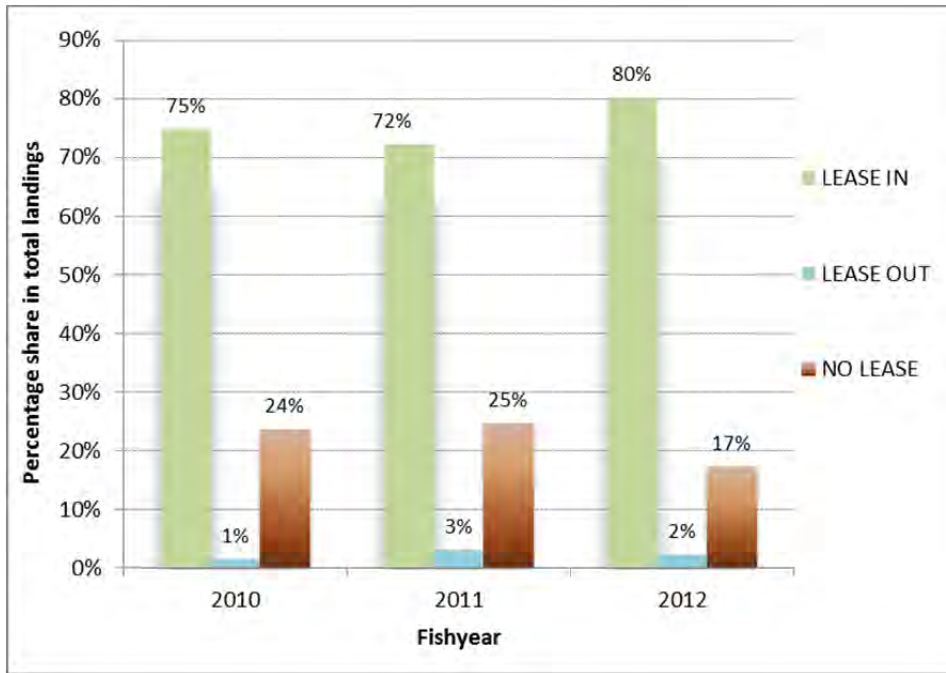


Figure 30. Number of LAGC IFQ vessels leased-out their IFQs

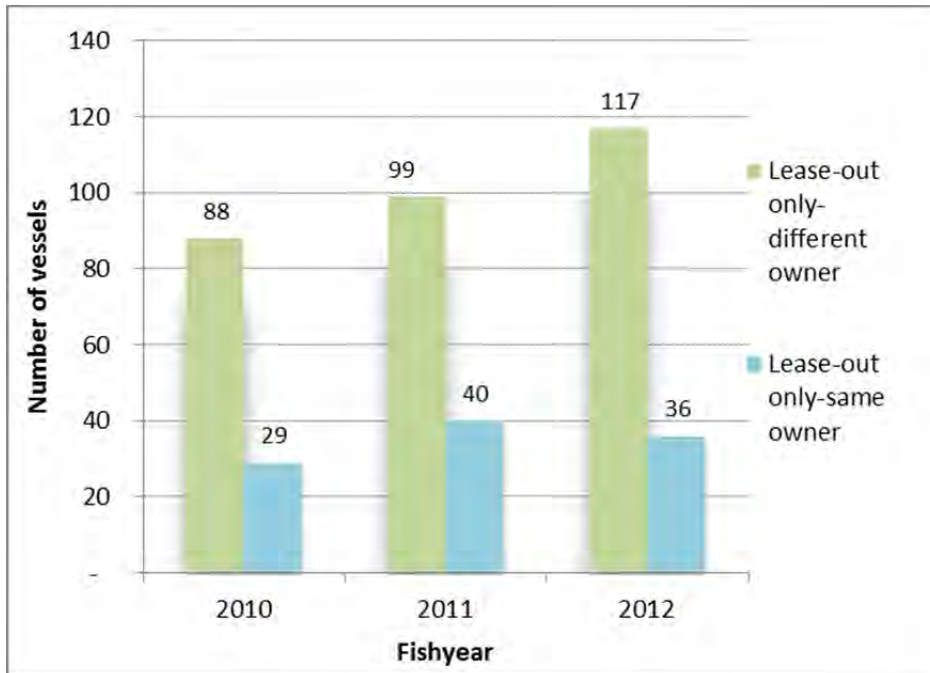
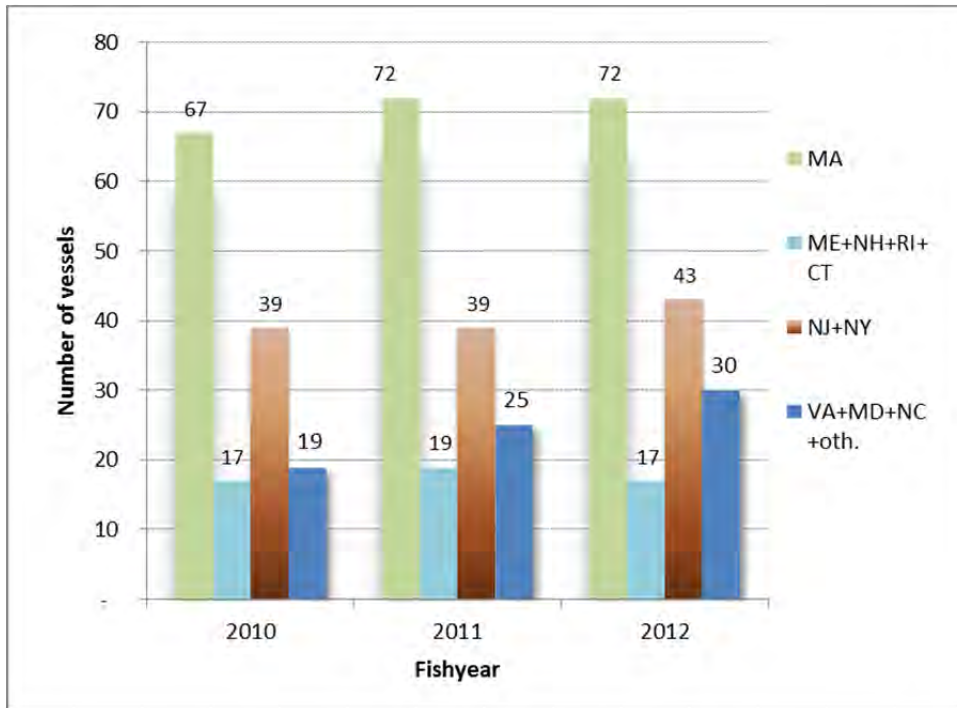


Figure 31. Number of LAGC IFQ vessels leased-out their IFQs by home state



1.5.4 Leasing in by vessels

- The number of vessels that leased in pounds from other vessels increased from 71 in 2010 fishing year to 75 in 2012 fishing year (Figure 27). There has also been a small increase in the IFQ allocations owned by this group of vessels from 23% in 2010 to 25% in 2012, indicating that some of these vessels probably acquired (transferred) IFQ from other vessels (Figure 28). The leased-in pounds comprised 66% of the scallop landings by these vessels in 2010 and 58% of scallop landings in 2012 with rest of the landings coming from the allocations (Figure 32).
- Again, some of these leasing took place between vessels owned by the same person or corporation. In fishing year 2010, 53 vessels leased IFQ from other owners and in 2012, 63 vessels leased pounds from other owners excluding those vessels that both leased-in and leased-out (Figure 33). In terms leased pounds, 93% of the leasing in 2012 (91% in 2010) was from different owners (Figure 34).
- In terms of overall LAGC-IFQ fishery landings in 2012 fishing year, over 80% of scallop pounds were landed by 75 vessels that leased IFQ from other vessels in addition to using their own allocations for fishing (Figure 29). The rest of the scallops were landed either by vessels that solely used their allocations for fishing or by those few vessels that leased out part (but not all) of their allocations.

- Majority of the vessels that leased IFQ were home ported in Massachusetts and NJ and NY areas. In terms of regions, Mid-Atlantic slightly exceeded New England region in terms of the number of vessels leasing from others (Figure 35).

Figure 32. Percentage share of leased pounds and allocations in total landings

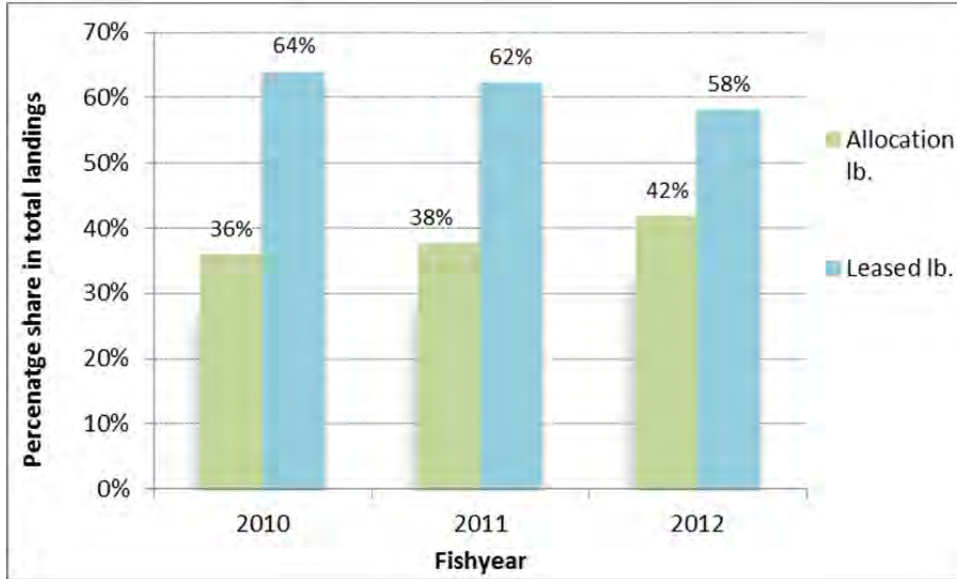


Figure 33. Number of vessels by lease group

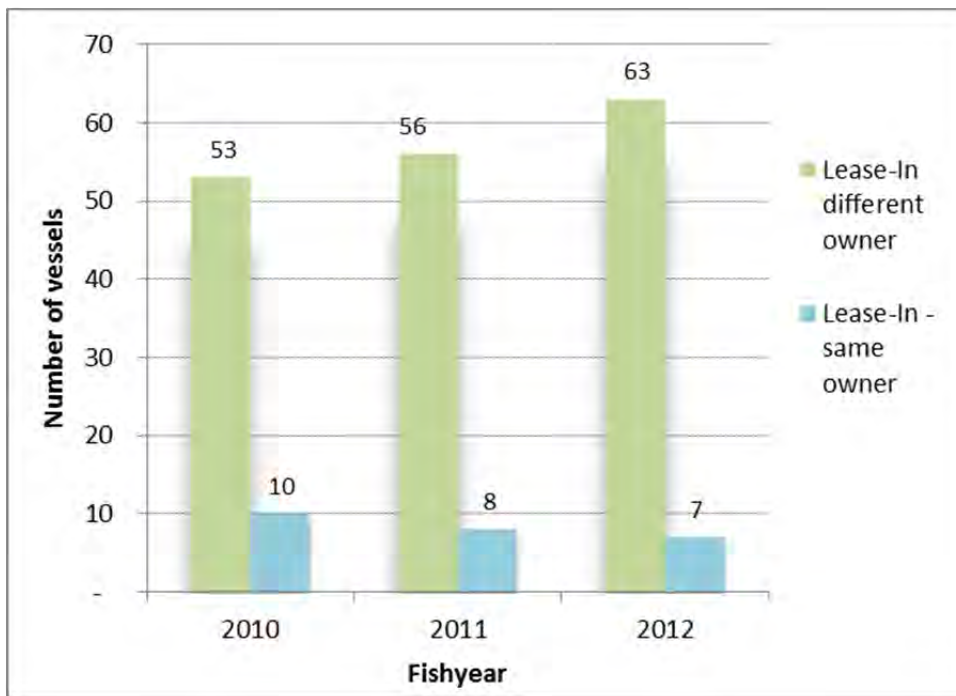


Figure 34. Percentage share of leased pounds by owner group (excludes a few vessels that both lease-in and lease-out)

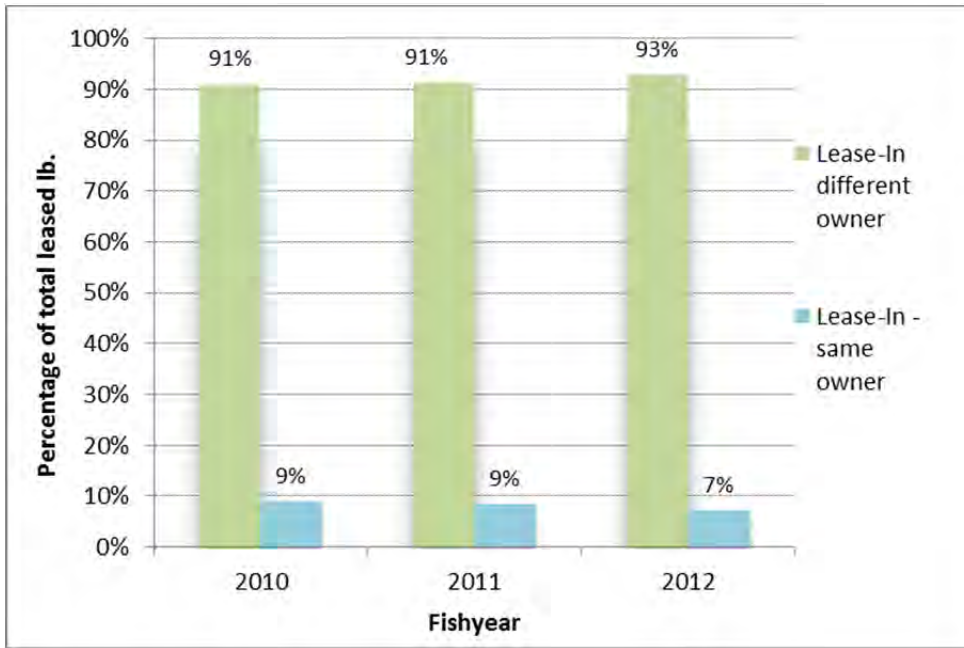
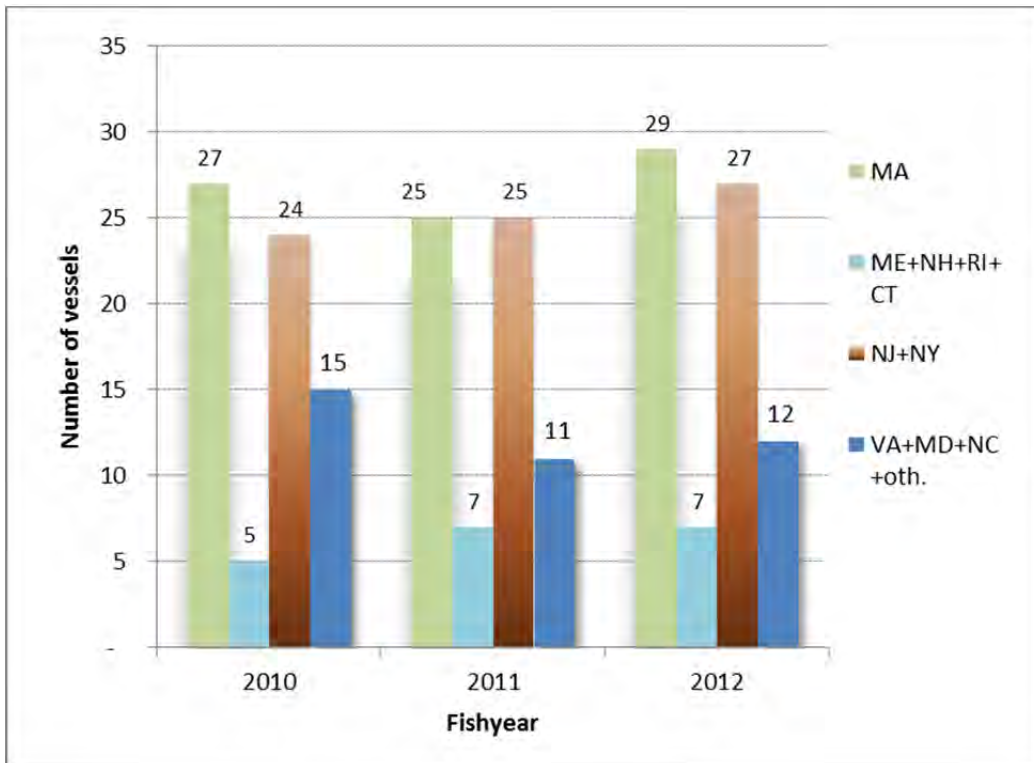


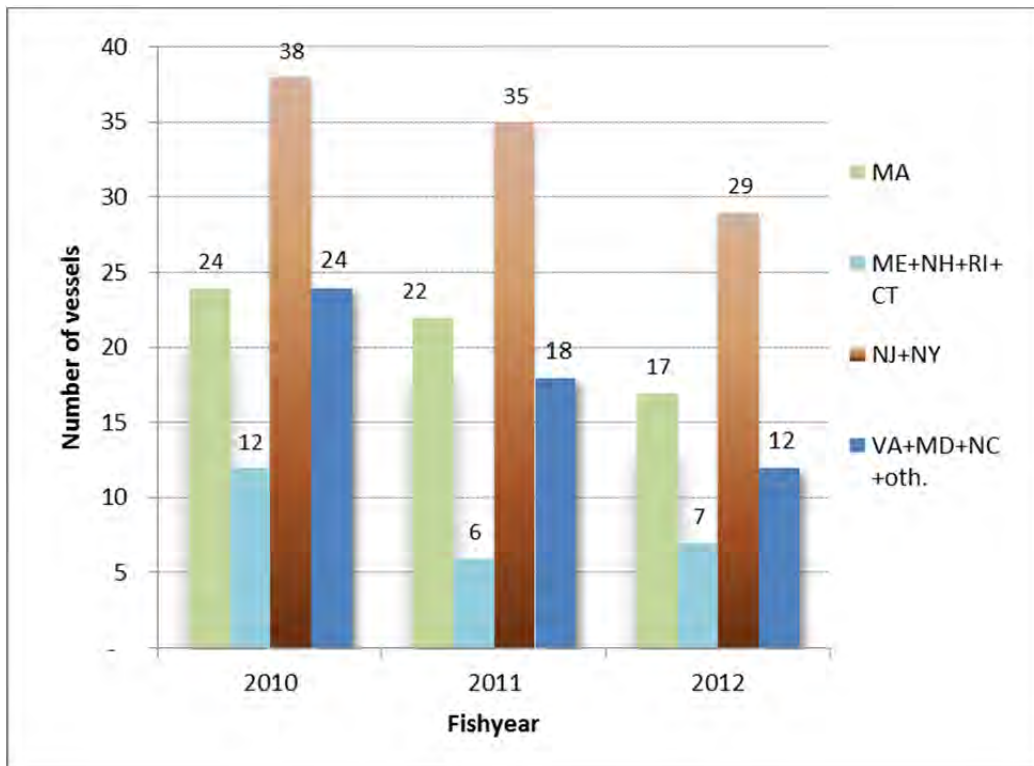
Figure 35. Number of LAGC IFQ vessels leased-in by home state



1.5.5 Participation without leasing

- The number of vessels that involved with no leasing declined from 98 in 2010 to 65 in 2012 and the percentage share of this group of vessels in the total IFQ allocations declined from 32% in 2010 to 22% in 2012 fishing year (Figure 27 and Figure 28).
- In terms of overall LAGC-IFQ fishery landings in 2012 fishing year, 17% of the scallop pounds were landed by vessels that didn't engage in any leasing (Figure 29).
- It seems that the majority of the vessels that were not involved in any leasing activity are from Mid-Atlantic with majority home ported in NY and NJ (Figure 36).

Figure 36. Number of LAGC IFQ vessels with no lease activity by home state



1.5.6 Leasing activity by owners

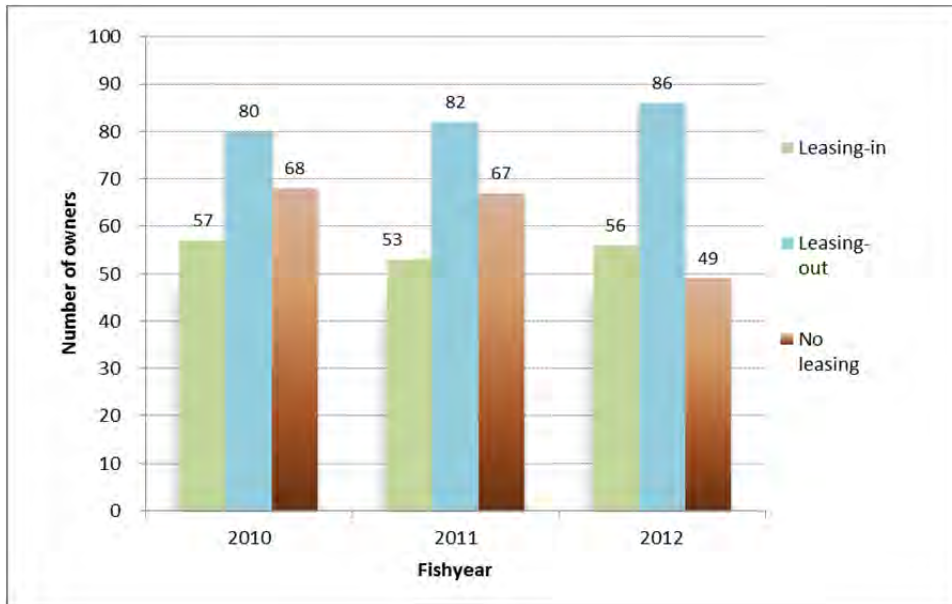
Leasing activity in terms of ownership provides a better idea about the extent of net leasing in the LAGC IFQ fishery. For example, if a multi-boat owner transferred IFQ from one vessel to another, then net leased pounds would be zero for her. Therefore, in terms of ownership, the 'no lease' group would include owners with zero net leased pounds. If on the other hand, the same owner leased out some of her IFQ to other owners while transferred some of the IFQ allocations from a vessel she owns to another she would belong to the group of owners who are on the net 'leasing out' IFQ. Similarly, if she both leased to and leased from different owners, if pounds leased out is greater than pounds leased in, she would be included in the 'leasing-out' group.

Similarly, if an owner was involved both in leasing-out and leasing-in from another owner, but the pounds he leased-in were greater than the pounds he leased-out, he would belong to the “leasing-in” group.

- Using this method, it is estimated that 80 IFQ owners (including those active owners who lease part of their IFQ) in 2010 fishing year and 86 IFQ owners in 2012 fishing year leased out their allocations (Figure 37). The increase in the number of inactive owners that leased out their shares was higher, however, 62 in 2010 to 72 owners in 2012 (Figure 7).
- There were 17 active owners in 2010 and 14 in 2012 that leased out part of their IFQ. It is possible that some of that fishing took place before the leasing activity was finalized in that year or that the owner kept one or more vessels still operating in the scallop fishery while leasing out the allocations on other vessels she owned. Figure 38 shows that the percentage share of this group in total scallop landings amounted to 11% in 2010 and in 2012 fishing years.
- The leasing-out group of owners (including the active owners) had the largest share of total allocation, about 47% in 2010 and 41% in 2012 fishing year (Figure 39). However, among active owners, the leasing-in group has the largest share of allocations 43% in 2010 and 51% in 2012 increasing their allocations during this period (Figure 40).
- Average allocation per owner was largest for the lease-in group compared to other groups partly because there were fewer owners in this group (Figure 41). In addition, share of this group in total IFQ allocations increased from 34% in 2010 to 37% in 2010 fishing year, indicating that some owners in this group bought quota from owners in other groups (Figure 37 and Figure 39).
- Although inactive owners that lease out their entire quota had a smaller share of total IFQ allocation, their shares increased from 21% in 2010 and 27% in 2012 fishing year (Figure 8).
- The number of owners that leased-in their shares varied between 53 to 56 in 2010-2012 fishing years, while there has been a considerable decline in the number of owners who were not involved in leasing activity, from 68 in 2010 to 49 in 2012 fishing years (Figure 37).
- Majority of owners who lease-out their quota were single boat owners (Figure 42). The number of in this group increased from 58 in 2010 to 62 in 2012. Similarly, majority of owners who lease-in were single boat owners. However, there has been a small increase in the number of owners who own two boats and a decline in the number single-boat owners in the lease-in group (Figure 43).

Gross and net revenues and distribution of income by activity are analyzed in Section 1.5.6, Section 1.7 and Section 1.8 below.

Figure 37. Number of owners by leasing activity



Note: The leasing-out group in the above figure includes 17 owners in 2010, 15 in 2011 and 14 in 2012 who landed scallops. Leasing-in group includes 3 owners in 2010 and 2 owners in 2011 and 2012 who didn't have IFQ allocation.

Figure 38. Percentage share in scallop landings by lease group

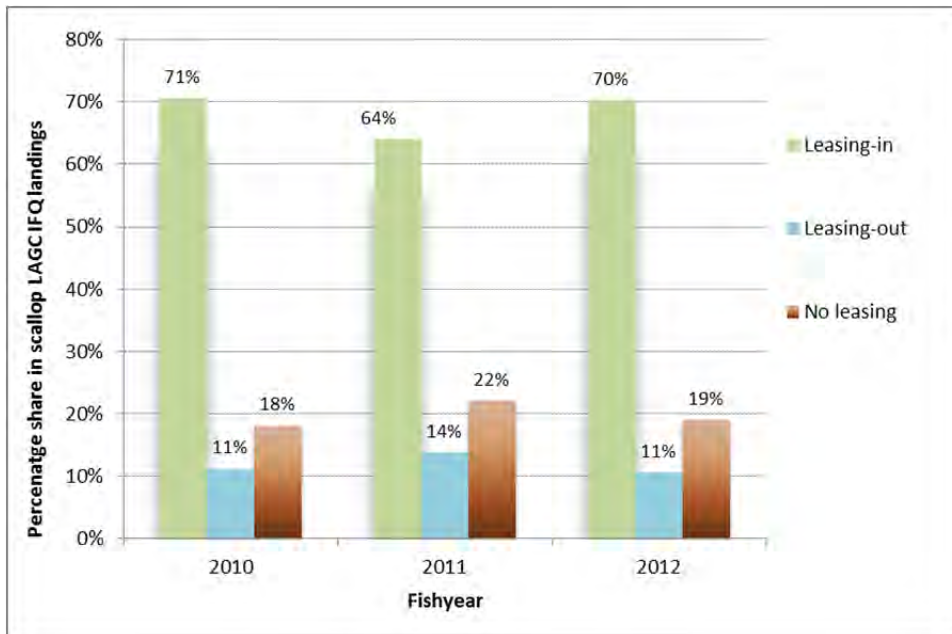


Figure 39. Percentage allocations by lease group (Includes both active and inactive owners)

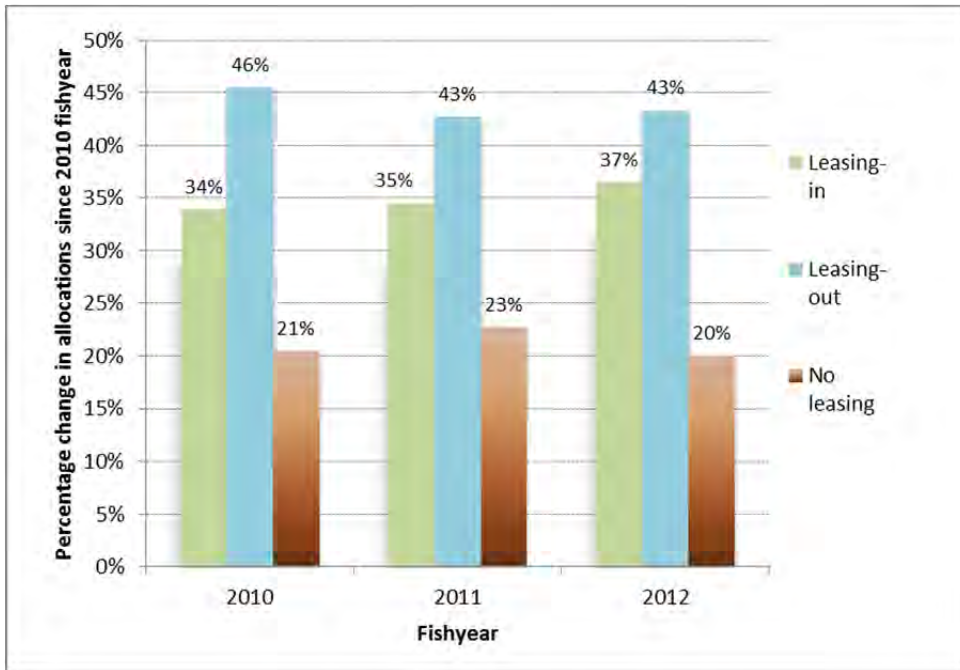


Figure 40. Percentage allocations for the active owners by lease group

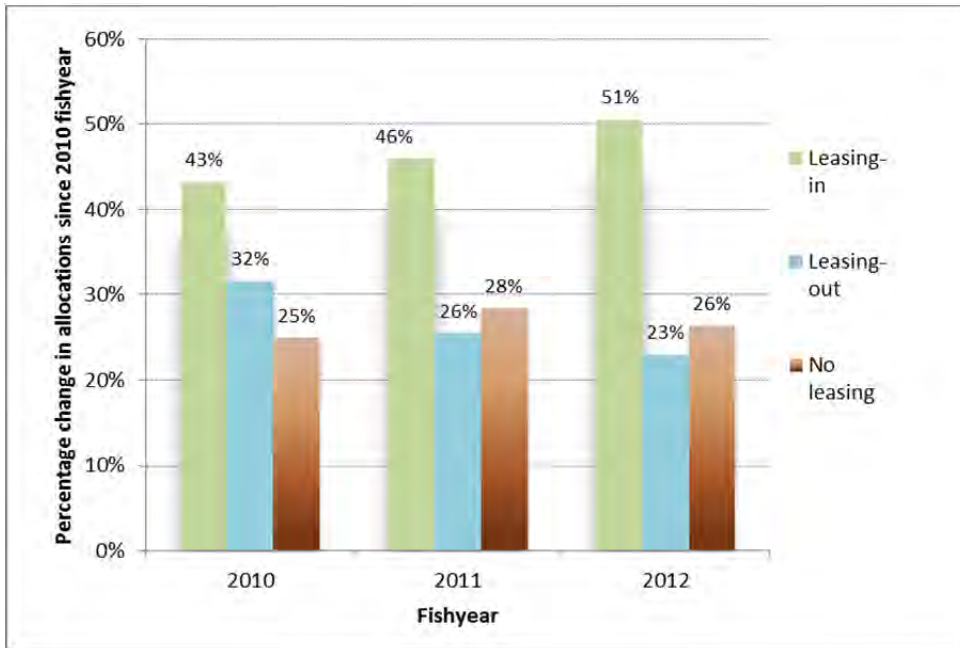


Figure 41. Average IFQ allocation by lease group (scallop lb.)

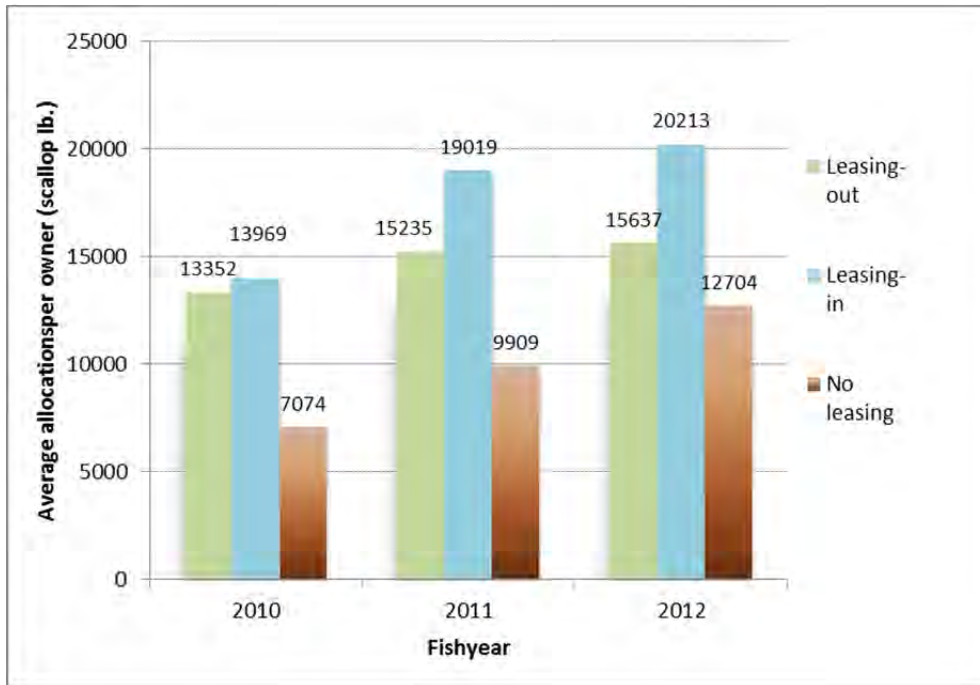


Figure 42. Owners who lease-out by number of permits (active and in CPH) owned

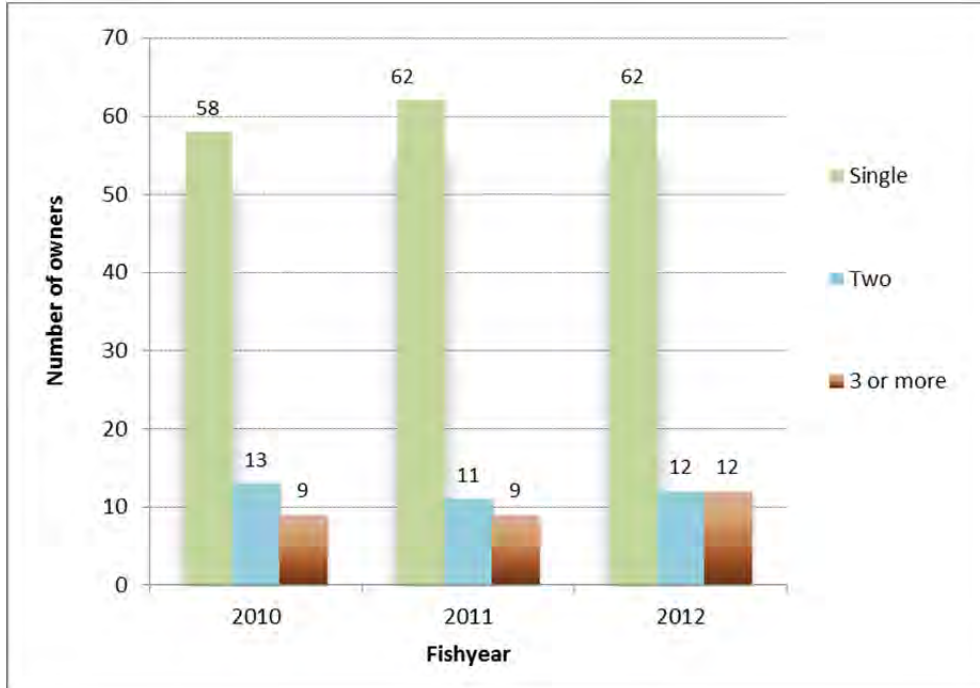
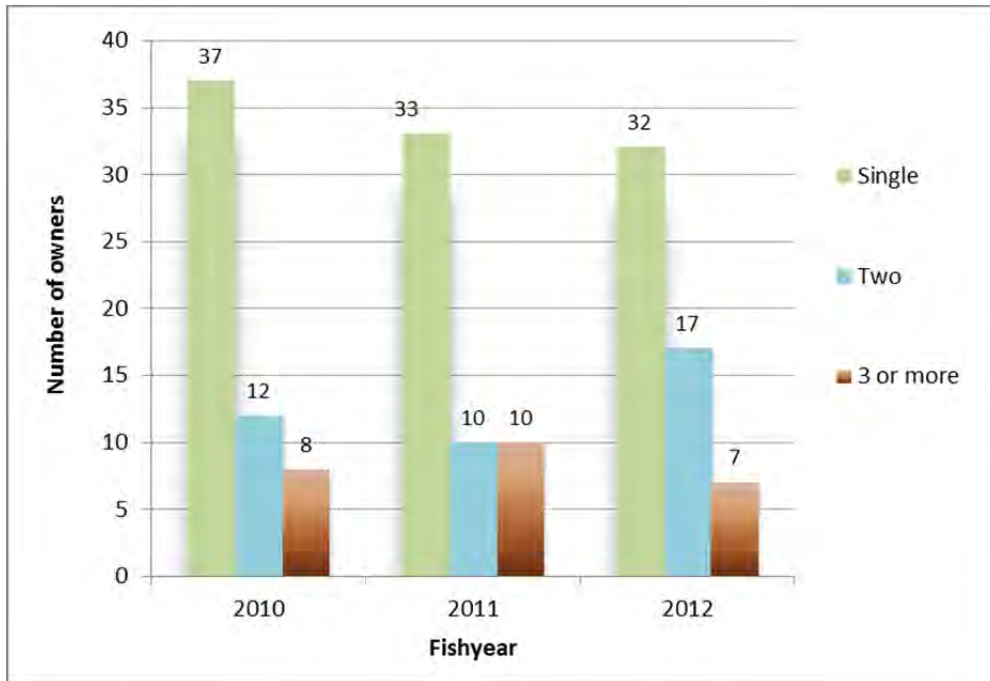


Figure 43. Owners who lease-in by number of vessels owned



1.6 Composition of landings by vessel

There has been an increase in the number of active vessels (from 46 in 2010 to 58 in 2012) that landed more than 20,000 lb. of scallops. Conversely, the number of vessels that landed up to 5000 lb. of scallops declined from 62 in 2010 fishing year to 30 in 2012 fishing year (Figure 44).

- There has been an increase in the share of the 20,000 lb. group in total landings in 2012, from 73% in 2010 to 82% in 2012 and a decline in the share of other groups with lower average landings in the same period (Figure 45).
- Increase in IFQ allocations during these years is part of the reason for the decline in the number of vessels that landed less than 20,000 lb.. However, given that the same trend was observed from 2011 to 2012 fishing years even though the allocations increased only slightly indicative of some level of transfer of quota from vessels with smaller allocations to vessels with a larger IFQ allocation (Figure 46).

Figure 44. Number of active vessels by pounds landed

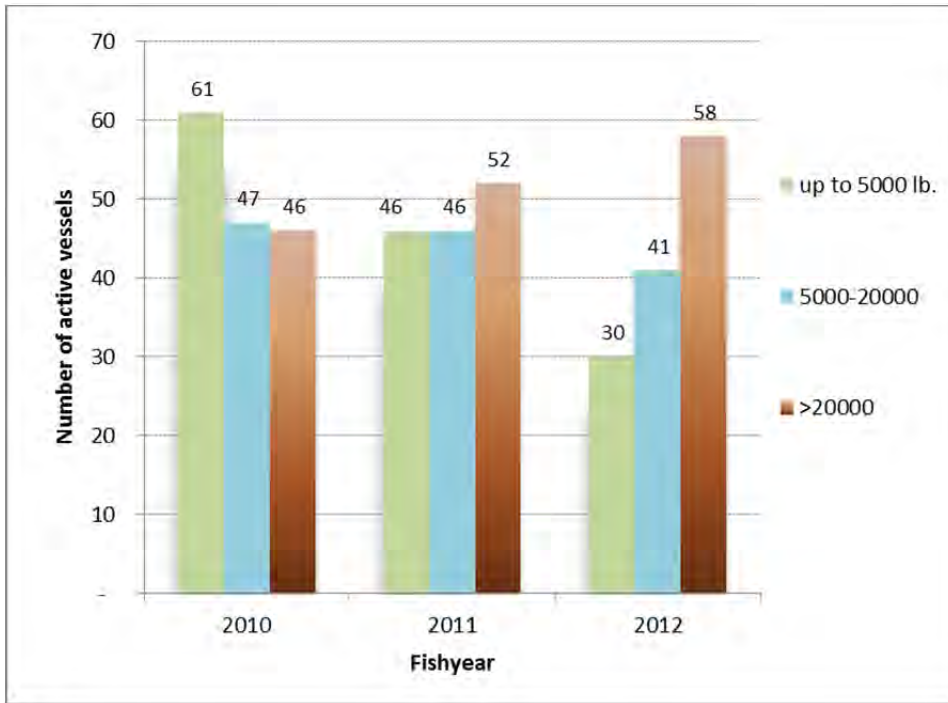


Figure 45. Scallop landings by pounds landed

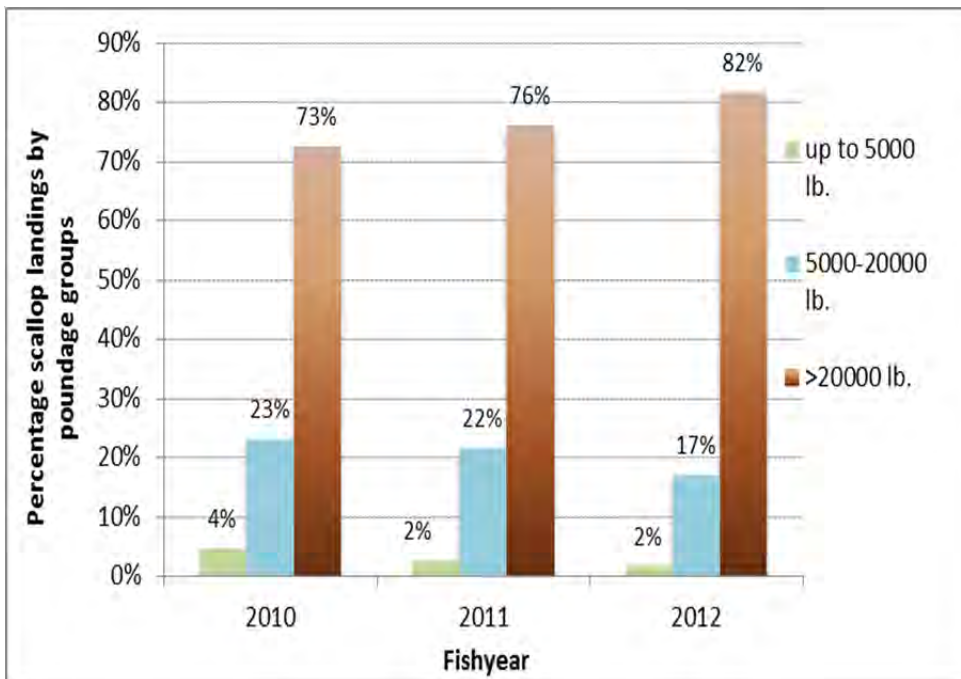
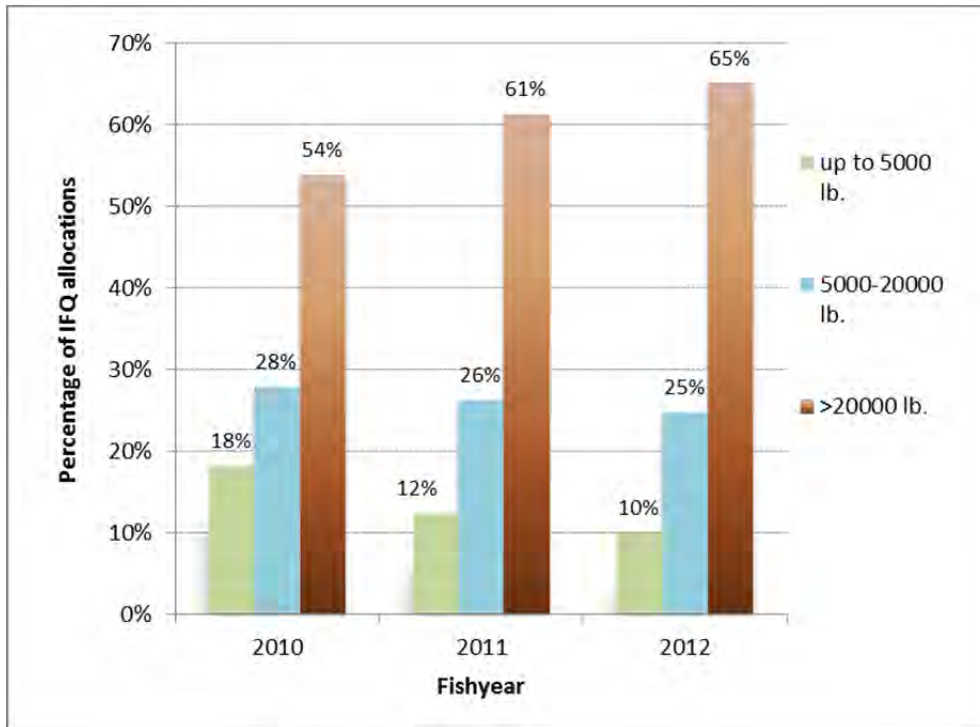


Figure 46. IFQ allocations by pounds landed



1.7 Average Economic performance per owner

This section evaluates the trends in gross and net revenue from scallops either through participating in the LAGC fishery actively or through leasing activities for IFQ. The changes in average income per owner were compared with aggregate trends in fleet income to analyze the impacts of concentration of effort since 2010 fishing year.

The number of owners in this section include active owners with IFQ permits who landed any amount scallops as well as those owners who leased out their quota to other owners. Unique owners with ownership interest in one or more vessels are determined using a method based on ‘maximum ownership’ criteria. This method follows SBA’s criteria for affiliation to the extent possible, which is based on the principle of control that “may arise through ownership, management, or other relationships or interactions between the parties” including foreign affiliations even when the control is not exercised (CFR 121.103 in its Small Business Size Regulations). Appendix III to Framework 25 (Economic Model) provides a detailed description of this approach.

1.7.1 Gross real scallop revenue per active owner

- Since the implementation of the IFQ program in 2010, the real value of average scallop revenue per owner increased by 76% due to the increase in IFQ TAC (by 34%), scallop

prices (by 10% in inflation adjusted 2012 values) and concentration of effort among active fewer owners (127 active owners in 2010 and 107 active owners in 2012, Figure 7 Figure 48). The average gross revenue in 2012 inflation adjusted prices per active owner increased from \$158,261 in 2010 to \$ 278,621 in 2012 fishing year (Figure 47 and Figure 48).

- About 48% of this increase could be attributed to the increase in IFQ TAC and scallop prices resulting in higher gross revenue for the fleet, while about 28% would be due to concentration of effort among fewer owners (Figure 48).
- However, the trends in the gross revenue per owner do not reflect the changes in incomes of owners who lease from others not does it show income earned by leasing quota to others. Next section takes into account sources of income and expenditures from the leasing activity in the LAGC-IFQ fishery and analyzes the trends in the average net revenue per owner.

Figure 47. Average nominal and real gross revenue from scallops (averages per active owner)

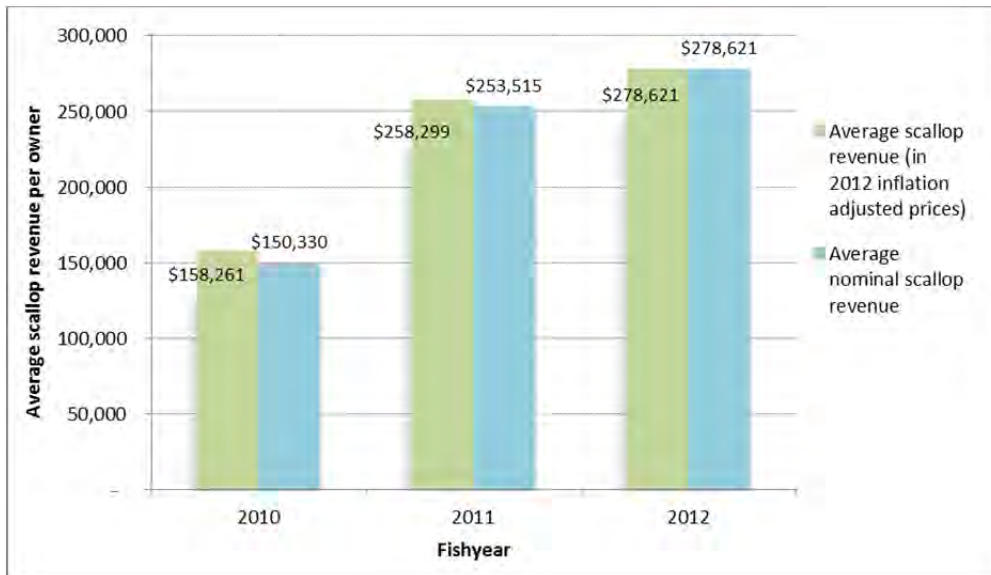
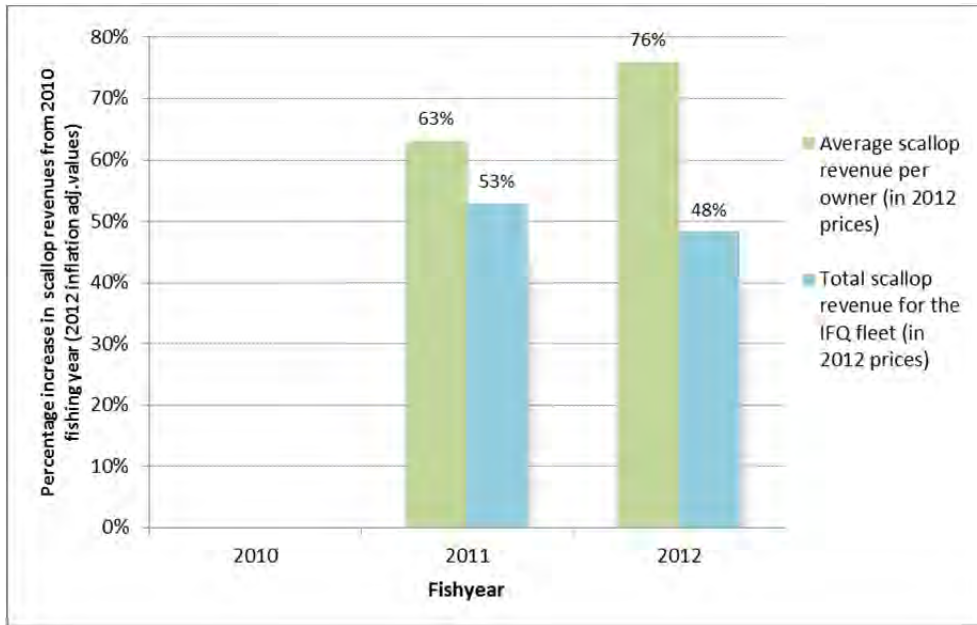


Figure 48. Percentage change in real gross scallop revenue from 2010 values (per active owner, in 2012 inflation adjusted values)



1.7.2 Net revenue per owner (net of lease and trip costs)

For the active owners, the net revenue for each year is estimated as the difference between the scallop revenue, leasing and trip costs. For IFQ owners who lease out their entire quota to other owners, the net revenue constitute the earnings from leasing alone.

Whenever available, the recorded lease costs was used to estimate the value or cost of lease. For those leasing-in transactions with no recorded value for the lease, lease values were estimated using the average annual lease price for each of the corresponding fishing year. Similarly, for leasing-out transactions without any lease price, the average price per pound for leased out quota was used to estimate total lease value. This maybe an overestimate for lease-out value if the owners pay a fee to find prospective owners that want to lease quota . In both cases, if the leasing transaction took place between vessels that belong to the same owner, leasing cost is assumed to be zero. However, in estimating the crew income and the owner’s share, the lease prices will be taken into account if crew pays the lease-in costs in total or partially from their share. In addition, the net revenues for the owners who lease in from other owners could be overestimated if some owners acquire bank loans to lease quota and pay interest on those loans.

Trip expenses include food, fuel, oil, ice, water and supplies and are estimated using the trip cost equation provided in Appendix III to Framework 25 (Economic Model). The trip costs per day-at-sea was postulated to be a function of vessel crew size, vessel size in gross tons, vessel length, fuel prices, and dummy variables for limited access general category (LGC) and small dredge (SMD) vessels. This cost equation was assumed to take a double-logarithm form and estimated

using the observer data from 1991 to 2012 for the limited access and limited access general category vessels.

- Average nominal net revenue per owner with an IFQ permit who either earned his/her income by landing scallops or by leasing out scallop pounds to other IFQ owners increased from \$85,299 in 2010 to \$145,881 in 2012 fishing year,. In the same period, total nominal net revenue for the fleet increased by 62%. The increase in net revenue per owner, a 72% increase from 2010, exceeded the increase in net revenue for the fleet as a whole due to the concentration of effort in fewer owners in 2012 (Figure 49 and Figure 50).
- Similarly, average real net revenue (in 2012 inflation adjusted values) per owner with an IFQ permit who either earned their income by landing scallops or by leasing out scallop pounds to other IFQ owners increased from \$89,800 in 2010 to \$145,881 in 2012 fishing year, a 62% increase.
- A major part of this increase was due increase in total fleet net revenue by 54% as a result of the increase in LAGC ACL and scallop prices, as well as increase in possession limit to 600 lb. per pound after 2010 fishing year reducing the number of trips to some extent. This implies that as much as 8% of the increase in the net average revenue could be due to the concentration of effort and ownership since the implementation of the IFQ program in 2010. The changes in the net revenue per owner was not uniformly distributed, however, based on the trends by leasing groups as examined in the following sections.

Figure 49. Net scallop revenue for LAGC-IFQ permit holders (net of leasing and trip costs)

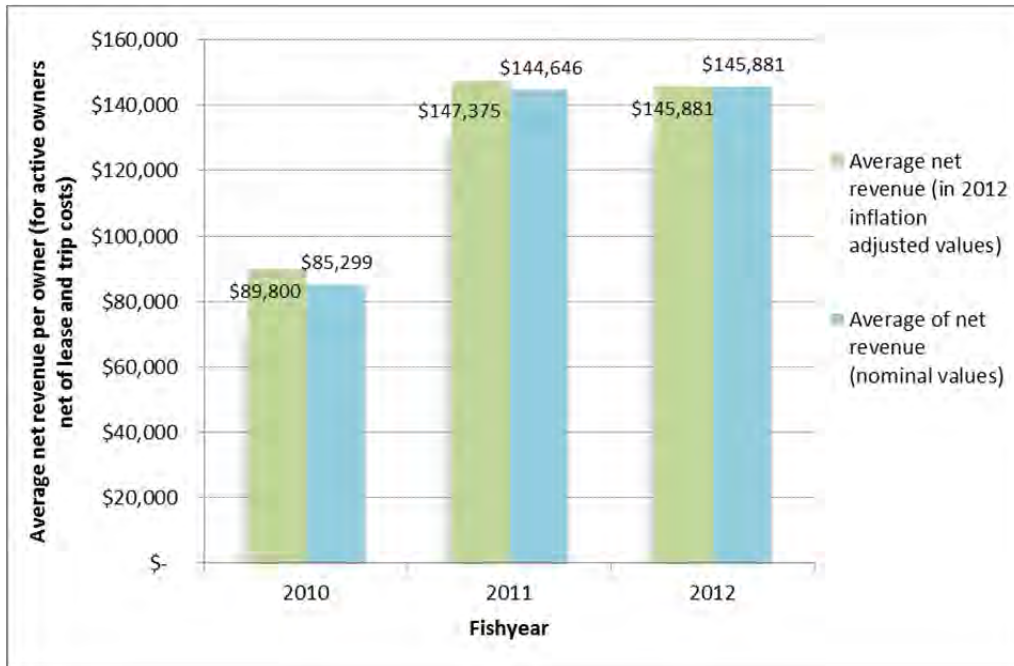
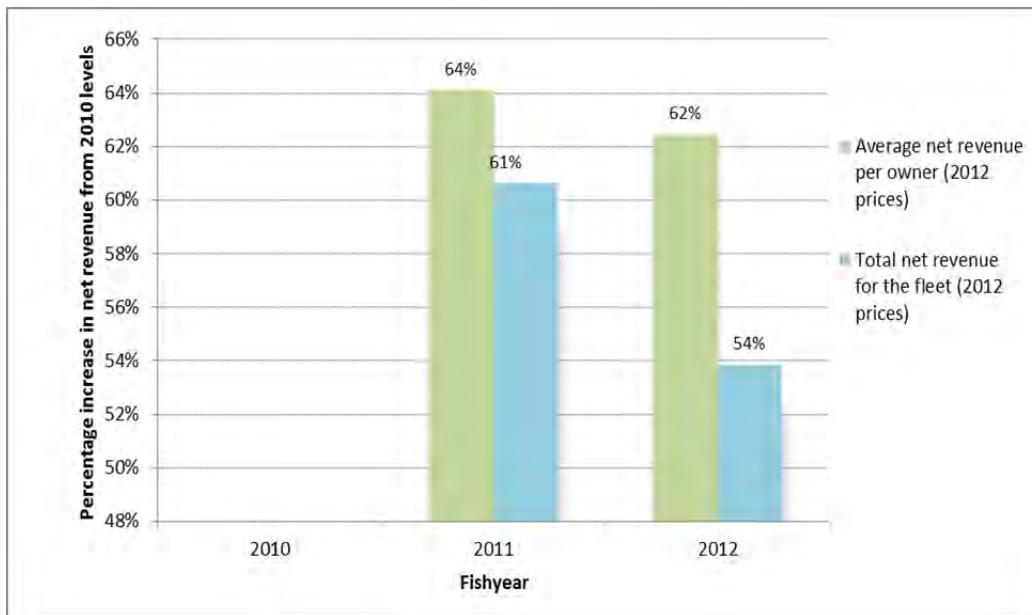


Figure 50. Percentage increase in average and total net fleet revenue from 2010 levels (inflation adjusted 2012 values)



1.7.3 Trends in net revenue by activity

- Total net revenue for the LAGC IFQ fleet increased from about \$17 million in 2010 to \$24 million in 2012 fishing year in 2012 inflation adjusted prices (Figure 51).
- The real value of the average net revenue per active owner (in 2012 prices), \$226,657, was close 10 times of the average net revenue per inactive owner, \$25,837 (Figure 52).
- Consistent with the above trends, the net revenue per active and inactive owner increased in 2010 from their 2012 values, but the increase in the net revenue per owner for the inactive owners (125%) exceeded those for active owners (66%) in 2012 (Figure 53). This was because the inactive owners do not pay leasing fee or incur trip costs.
- The share of active owners in total fleet net revenue declined slightly from 96% in 2010 to 93% in 2012 while the share of the inactive owners increased from 4% to 7% during the same period (Figure 55).

Figure 51. Total net revenue by activity (in 2012 inflation adjusted prices)

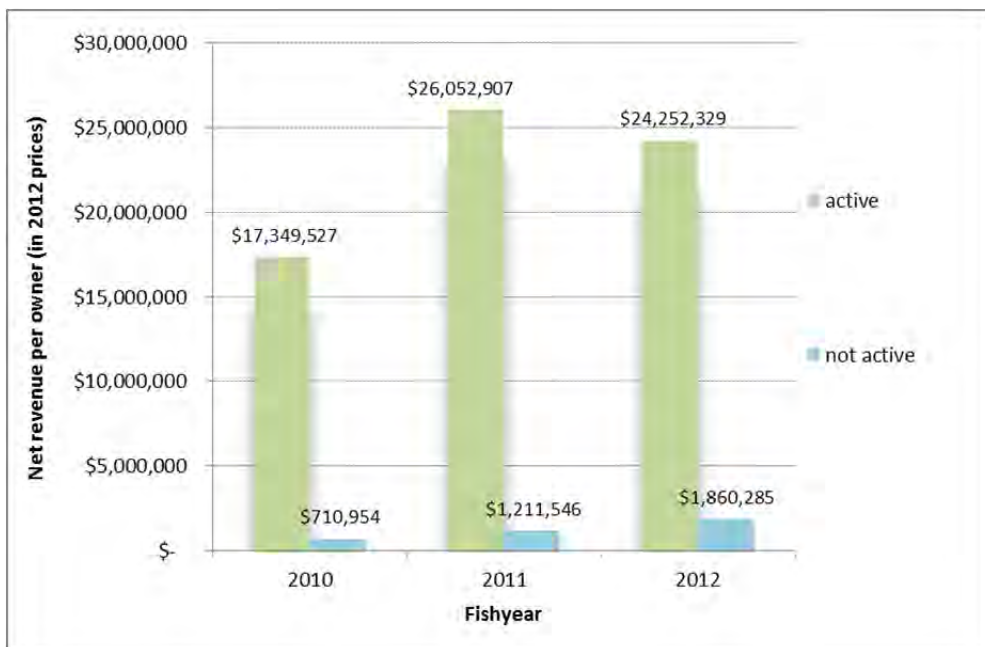


Figure 52. Average net revenue per owner by activity (in 2012 inflation adjusted prices)

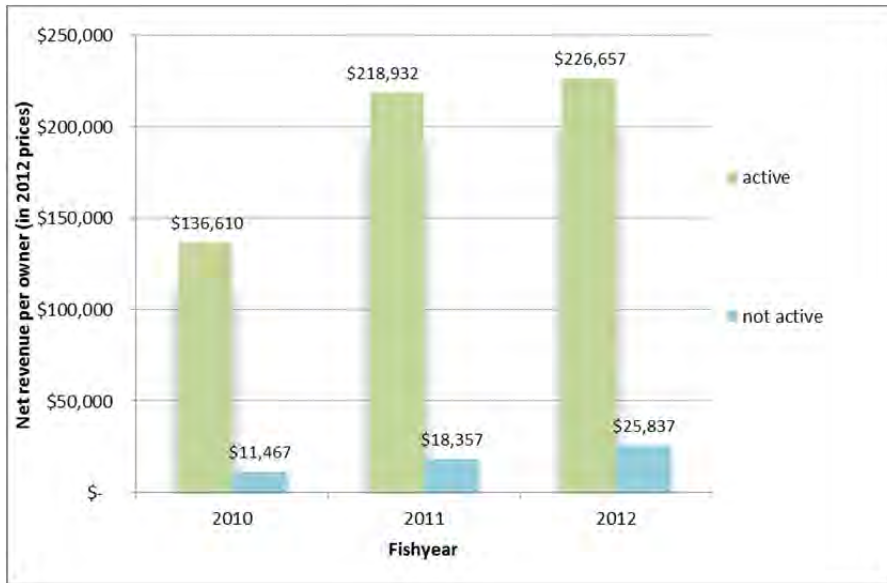


Figure 53. Percentage change in net revenue per owner from 2010 levels (in 2012 inflation adjusted prices)

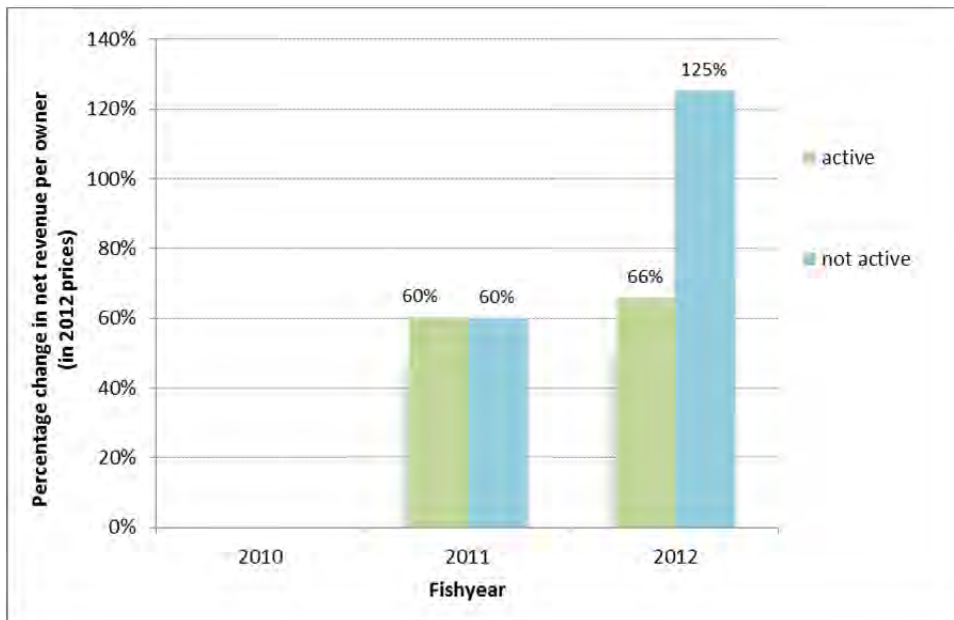


Figure 54. Percentage change in revenue and costs from 2010 values

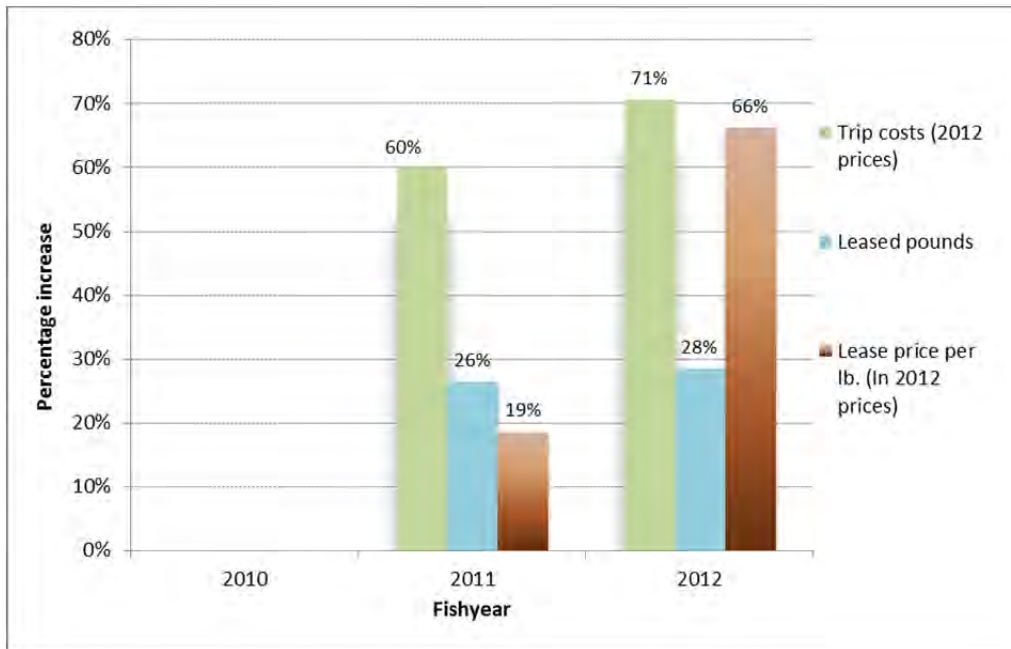
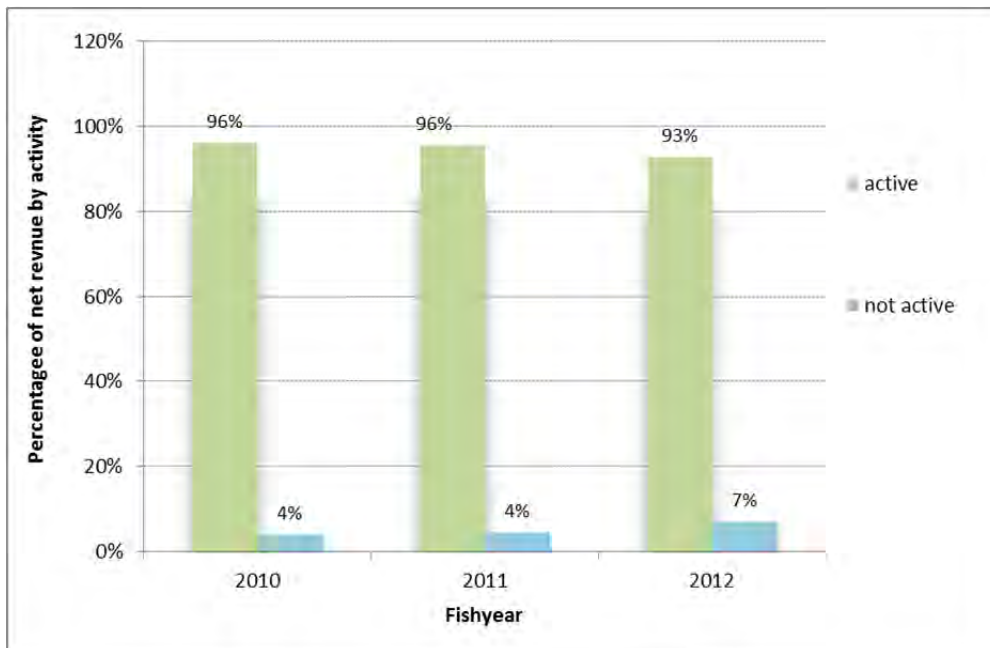


Figure 55. Percentage share in total net revenue by activity group (in 2012 inflation adjusted prices)



1.7.4 Trends in net revenue by leasing group since 2010:

- However, the percentage increase in the real net revenue per owner for the leasing-in group (35% in 2012) was lower than the percentage increase in the net revenue both for the leasing-out group (50%) and for no-lease group (150% increase since 2010, Figure 56). Net revenue estimates does not take into account the transfer costs incurred by any owner during the same period.
- During the same period, the total net revenue for the fleet increased by 54% indicating that the gains in the net revenue of the owners leasing from others fell short of the overall increase for the fleet.
- This was due to the increase in the real lease prices per pound of scallops by 66% and increase in trip costs by 71% in 2012 compared to the 2010 fishing year.
- As a result of these changes, the percentage share of the leasing group in total net real revenue declined from 67% in 2010 to 62% in 2012 fishing year while the percentage shares of the leasing-out and no lease groups increased by 2% and 4% respectively (Figure 57).
- The group owners that are not involved in leasing out did not incur lease costs, however, some of these owners may have made payments for the amount of quota they bought, which is not a part of the estimated net revenue.
- The average earning for the majority of the owners (42 such owners in 2012) who leased out their shares was \$4000 in 2012. Average earnings from leasing out for few owners in the high-end group (9 in 2012) increased considerably in 2012 from about \$71,983 in 2010 to \$124,713 in 2012 (Figure 58 and Figure 59).

Figure 56. Percentage change in net revenue from 2010 values (2012 inflation adjusted values)

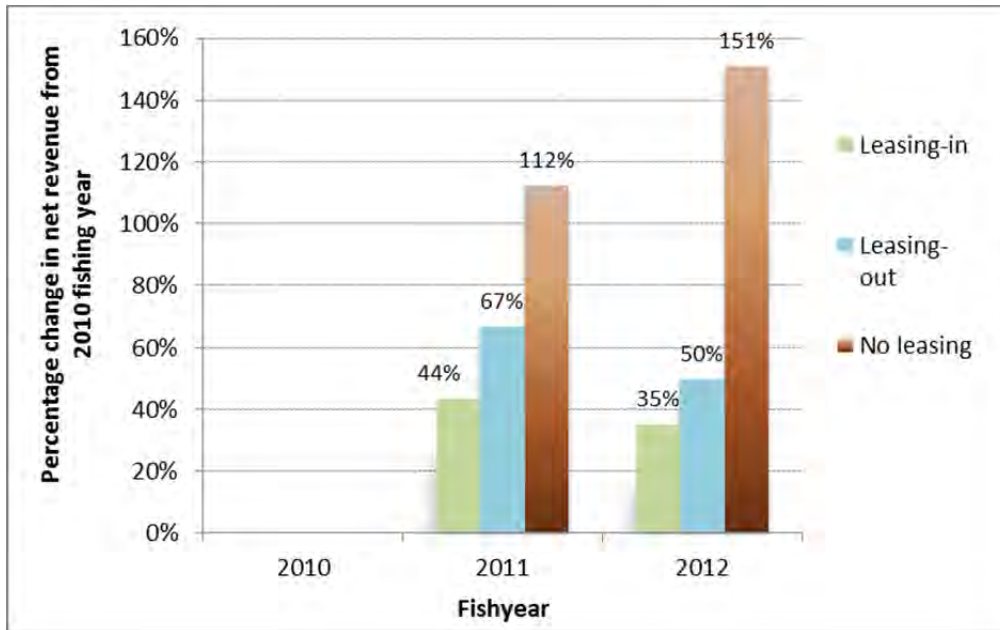


Figure 57. Percentage distribution of net revenue by lease group

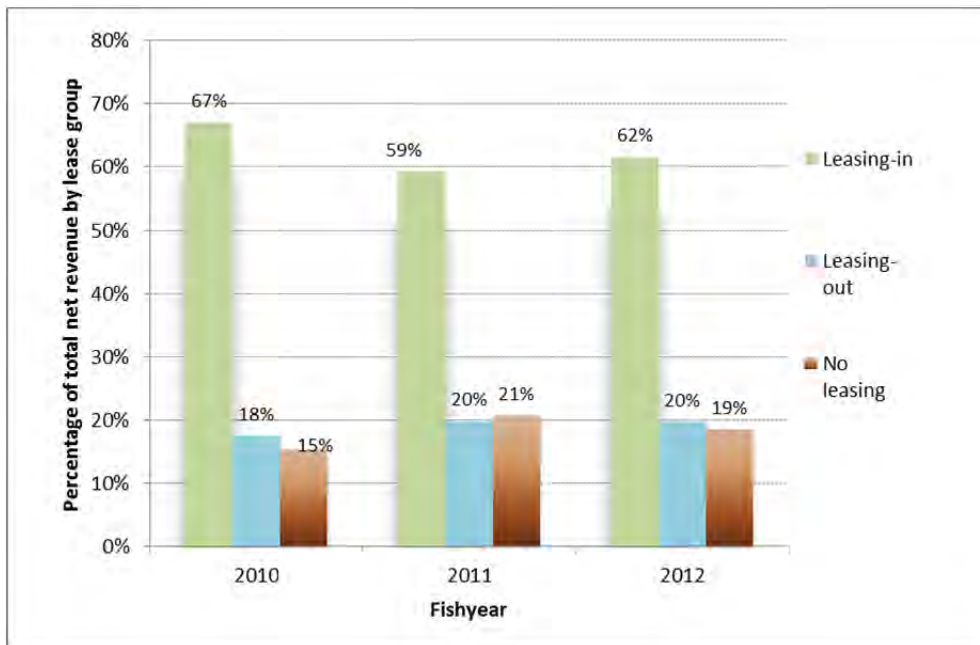


Figure 58. Earnings from leasing for inactive LAGC-IFQ owners who leased-out quota

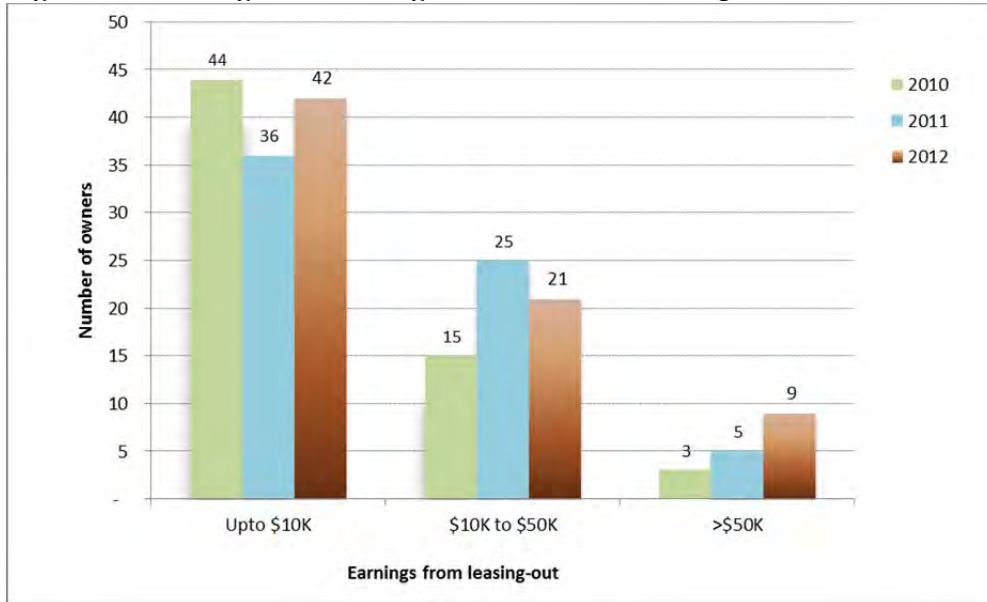
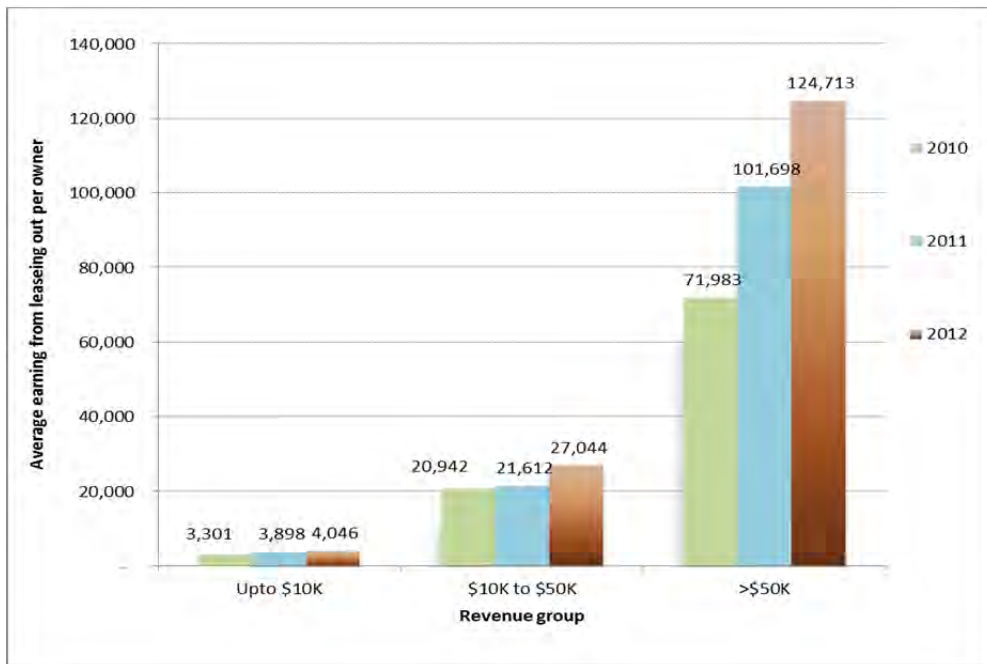


Figure 59. Average earnings from leasing per inactive LAGC-IFQ owner (Includes only those owners who leased-out quota)



1.8 Distribution of net revenue

The LAGC IFQ fleet is diverse in terms of net revenues from scallop fishing and leasing activity, although net revenues were highly concentrated among the top earning groups. In 2012 fishing year, average net revenue for the 47 owners were less than \$10,000 whereas about 35 owners averaged more than \$300K (Figure 60 and Figure 61).

The distribution of net revenue is analyzed using cumulative distribution of revenue and the number of by ordering the revenues from smallest to largest. For the purposes of this analysis, the data is divided into four quadrants such that each quadrant is equivalent to about 25% of the total net revenue for the fleet ranked starting with the bottom 25%. The number of owners include all active owners as well as those owners that lease out their entire quota to others to fish for scallops.

- The results show that the net revenues were highly concentrated among the top earning groups. About 8 to 10 top owners (Q4, Top 25%) earned about 25% of the total net revenue during 2010-2012 fishing years, while the about 146 owners (Q1: Bottom 25%) in 2010 and 132 owners in 2012 earned about 25% of the net revenue.
- There has been a decline in the later group (from 146 owners to 132 owners) as some of these owners either consolidated their shares with others or sold their IFQ to other owners. Net revenues were highly concentrated among the top earning groups. About 8 to 10 top owners (Q4, Top 25%) earned about 25% of the total net revenue during 2010-2012 fishing years, while the about 146 owners (Q1: Bottom 25%) in 2010 and 132 owners in 2012 earned about 25% of the net revenue. There has been a decline in the later group (from 146 owners to 132 owners) as some of these owners either consolidated their shares with others or sold their IFQ to other owners (Figure 62).
- The Lorenz Curve depicting the distribution income for IFQ owners indicate that the net revenues among LAGC owners are unequally distributed. The Gini coefficients for the net revenues were above 0.65 for 2010 to 2012 fishing years. This is mostly due to the unequal distribution of allocations in 2010, with Gini coefficients exceeding 0.63 during the same years. (Figure 63 and Table 2).
- However, the fixed costs and crew shares were not included in the net revenue estimates analyzed above. When the profits are estimated taking into account the fixed costs and payment to the crew, the Gini coefficients will probably change since the active owners have to pay for these expenses whereas many owners in the bottom 25% lease out their IFQ shares and do not incur those costs.

Figure 60. Number of active LAGC-IFQ owners by net revenue group (including revenue from leasing and fishing for scallops)

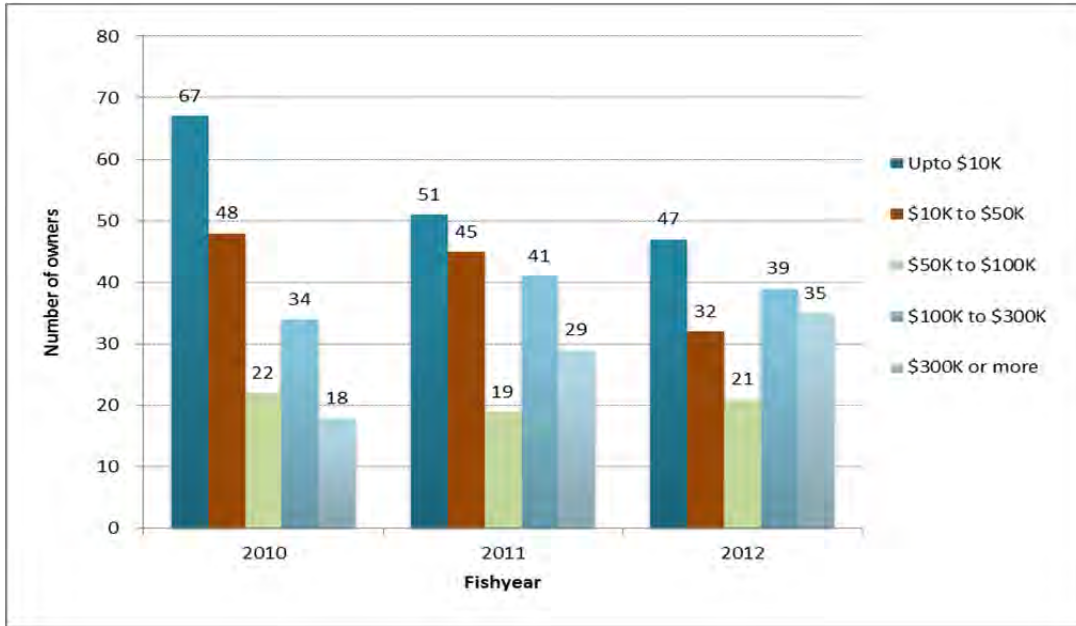


Figure 61. Net scallop revenue by earning (net of leasing and trip costs, excluding owners with no revenue)

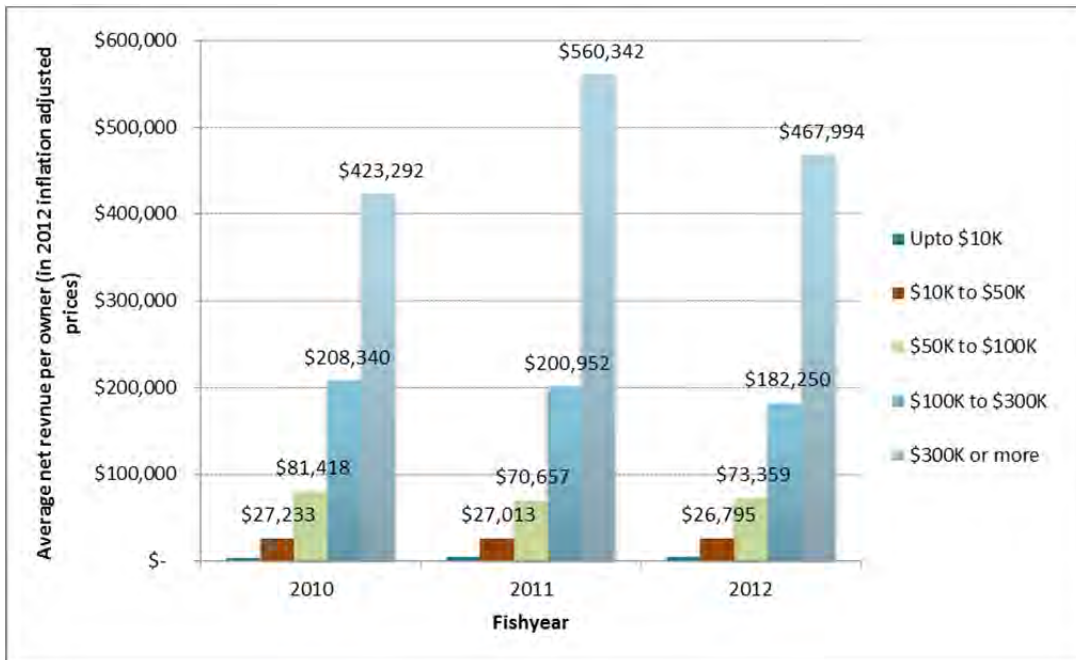


Figure 62. Net scallop revenue for LAGC-IFQ permit holders (net of leasing and trip costs, excluding owners with no revenue)

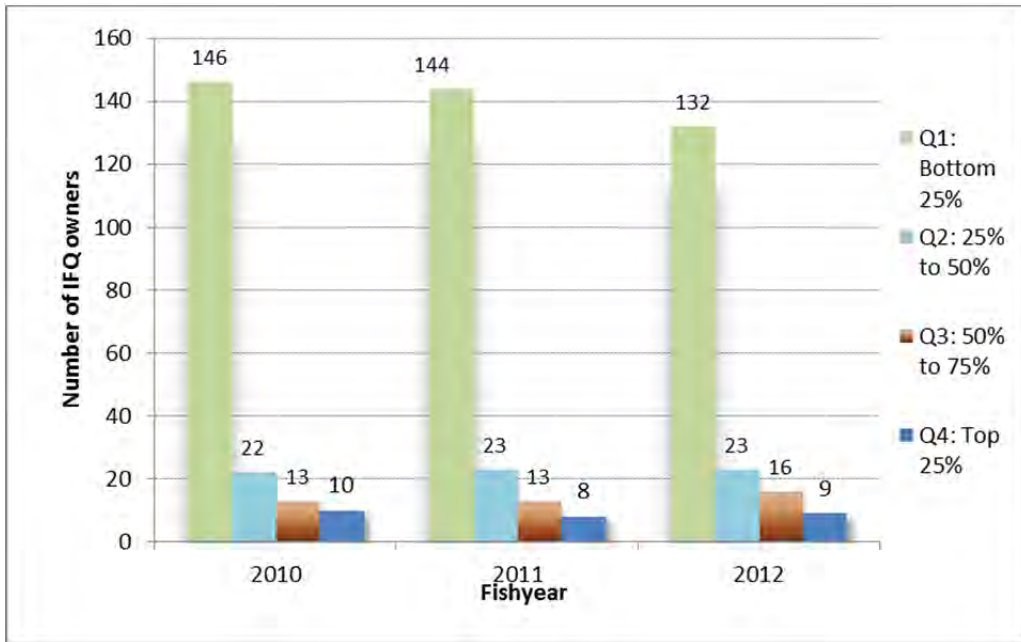


Figure 63. Lorenz curve for LAGC-IFQ owners for scallop revenue net of leasing and trip costs (2012 fishing year)

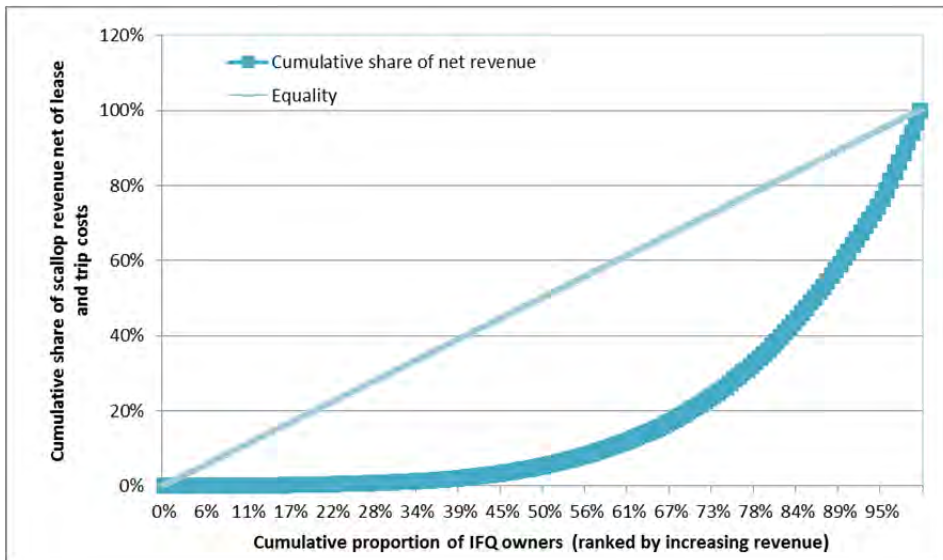


Table 2. Gini Coefficients

Fishyear/Variable	Revenue per owner (Active owners only)	Net Revenue per owner (including owners who leased out)	IFQ allocations per owner
2010	0.58302	0.68009	0.64209
2011	0.57711	0.68628	0.64508
2012	0.50545	0.65738	0.63740

1.9 Trends in profits, employment and crew shares (in progress)

Preliminary work is done in estimating fixed costs and lay system for the LAGC – IFQ vessels based on the cost survey data for 2011 and 2012. Changes in employment are related to the changes in trip duration, number of trips and number of active vessels. Changes in the possession limit, distribution of resource and the number of access area trips affect those factors and eventually total employment measured by crew*DAS.

1.10 Trends in economic dependency

The dependence of the active LAGC IFQ vessels on scallop revenue ranges from negligible to high with some vessels deriving close to 100% of their revenue from scallops. The vessels in Figure 64 include unique vessels and the number of permits may be greater than those numbers since the same vessel gets a new permit when it is upgraded or changes owners. The average landings per vessel that derived 75% or more of its revenue was more than 33,000 lb. in 2012 compared to about 23,000 lb. in 2010 fishing year (Figure 65).

The share of scallop revenue as a percentage of total revenue from all species varied among the LAGC-IFQ holders with about 58 owners deriving more than 75% of their revenue from scallops while on the other end, for about 51 to 55 owners, the scallop revenue constituted less than 5% of their total revenue from all species in the last two fishing years. While the number of the owners in the high dependency group remained relatively stable, there has been a decline in the number of owners in the low dependency group since 2011 as some owners transferred their IFQ to other owners mainly targeting scallops (Figure 66).

The average scallop revenue per owner increased considerably in all revenue groups except for the low dependency (up to 5%) group as the LAGC ACL increased and the number of active owners in each group declined since 2010 fishing years (Figure 67). The owners in the top group derived on the average 95% to 96% of their total fishing revenue from scallops (Figure 68).

Figure 64. Number of vessels by percentage of revenue from scallops

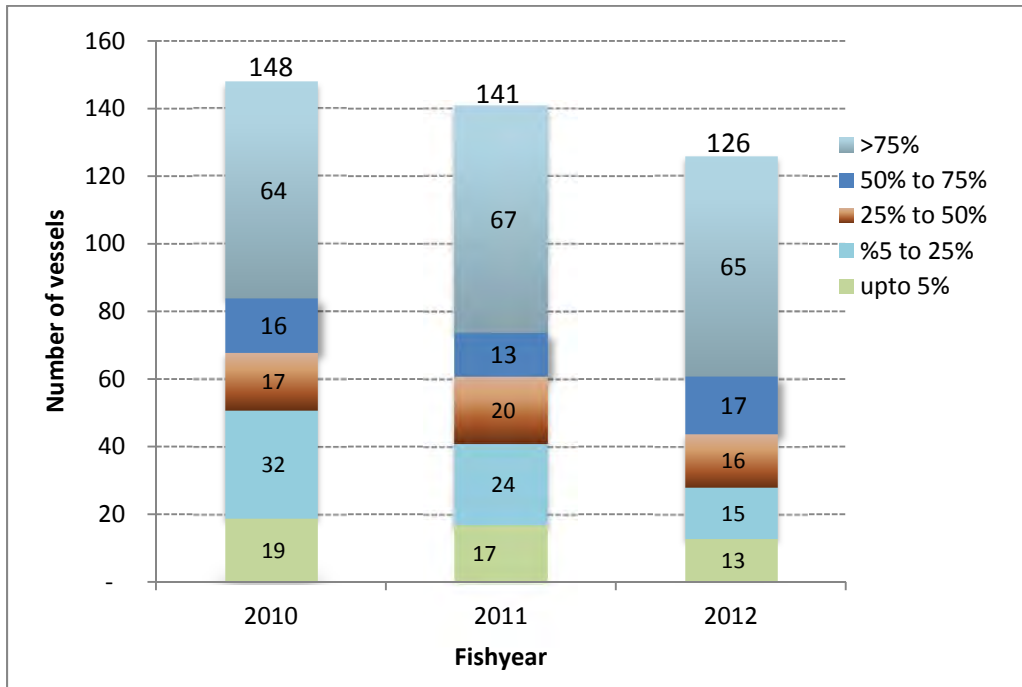


Figure 65. Scallop landings per vessel by dependence groups

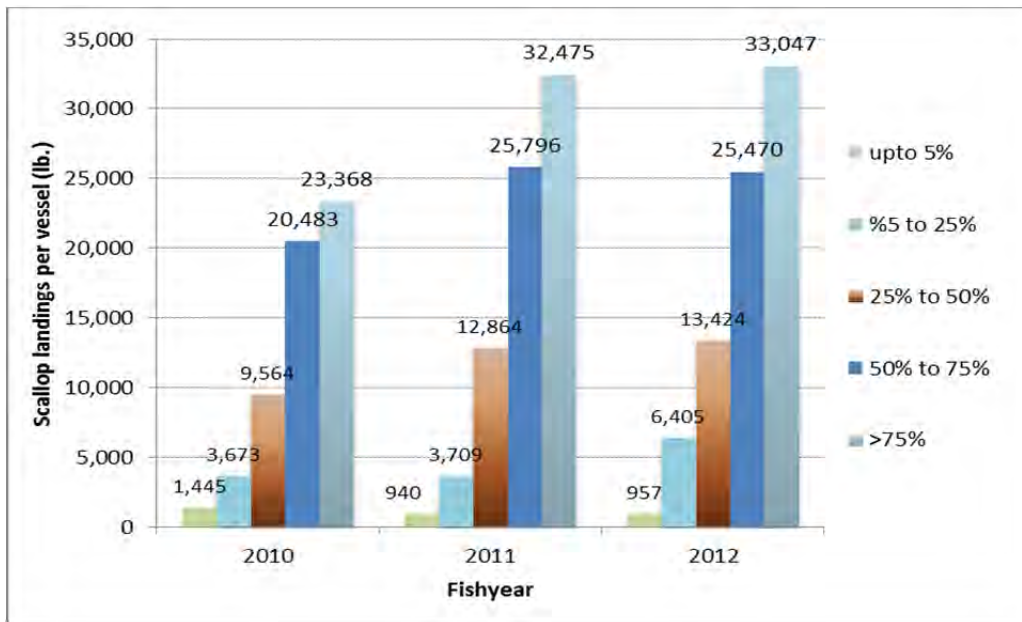


Figure 66. Owners with LAGC-IFQ permits by the percentage of revenue from scallops

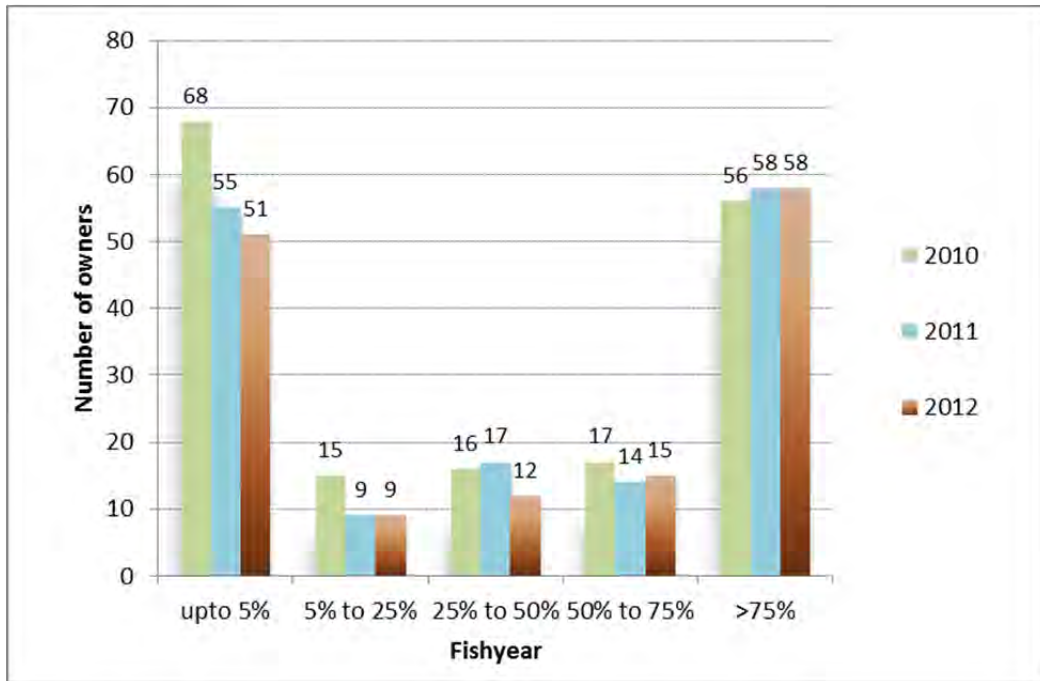
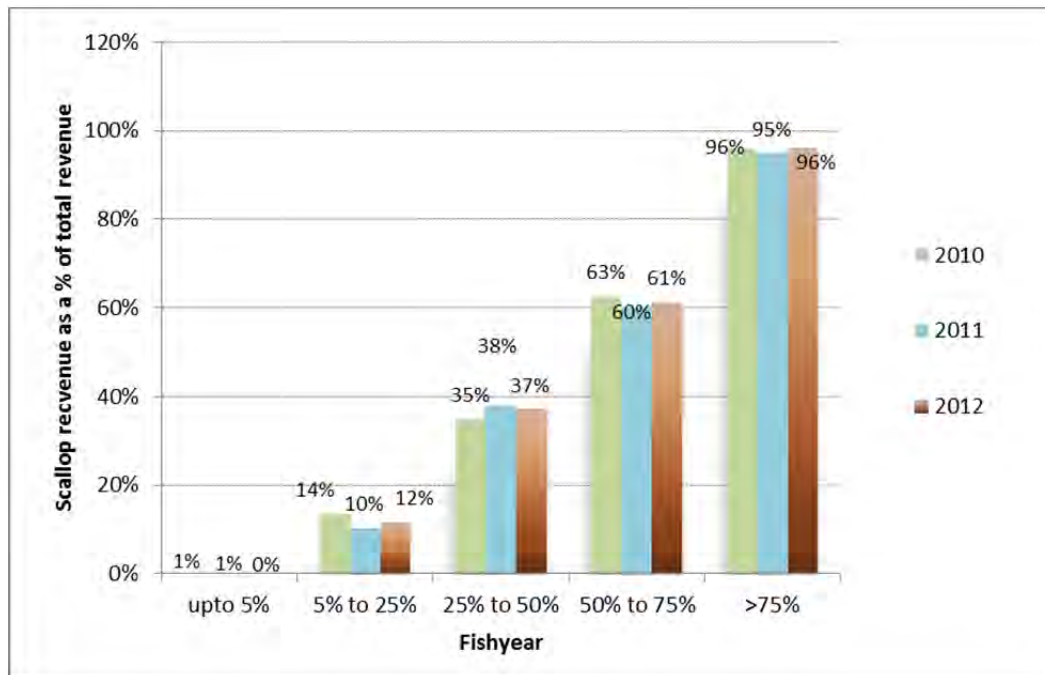


Figure 67. Average scallop revenue per owner by dependency group



Figure 68. Scallop revenue as a percentage of total revenue (Owners with active LAGC-IFQ permits)



1.11 Geographical trends in landings, allocations, transfers and leasing activity

There has been an increase in the number of vessels, landings, allocations and leasing-in by vessels with a primary state in Massachusetts during 2010-2012 fishing years.

- There has been a decline in the number of active IFQ vessels from the Mid-Atlantic states while the number of active vessels with a home port in MA and other New England states remained relatively stable during 2010 to 2012 fishing years. The number of active vessels from New Jersey and New York exceeded the number of active vessels from other regions (Figure 69).
- In terms of the allocations for active vessels only, the share of MA increased from 21% in 2010 to 30% in 2012 fishing year while the share of states in Mid-Atlantic region declined during the same years (Figure 70).
- Percentage share of the vessels home ported in Massachusetts increased from 31% in 2010 to 40% in 2012 (Figure 72).
- Consistent with these trends, and more favorable scallop resource conditions in the New England area, there has been a shift in the leasing activity since 2010 with MA becoming the main state with net leasing of IFQ from other states (Figure 75). The existence of permit banks and co-ops may also have an effect on the shifts of leasing activity by state.

Figure 69. Number of vessels home state (active vessels only)

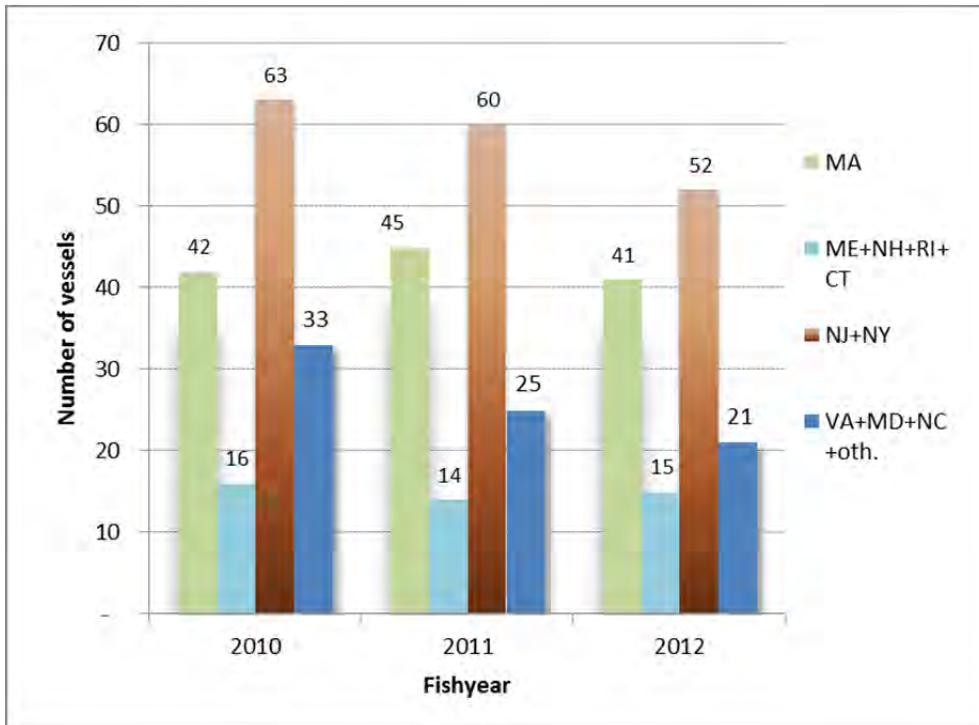


Figure 70. Allocations by home state (active vessels only)

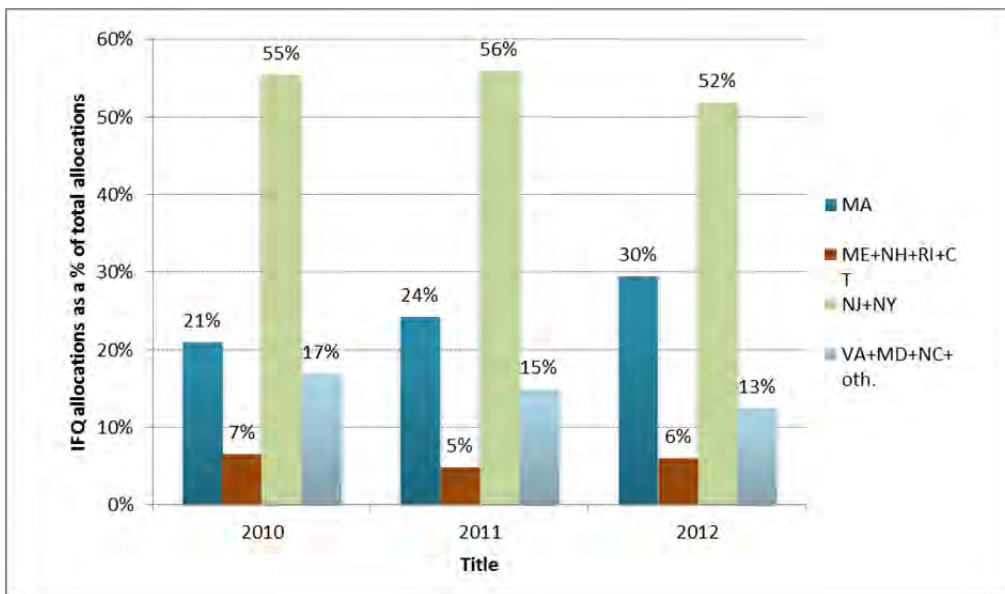


Figure 71. Allocations by primary state (all vessels, including active and non-active)

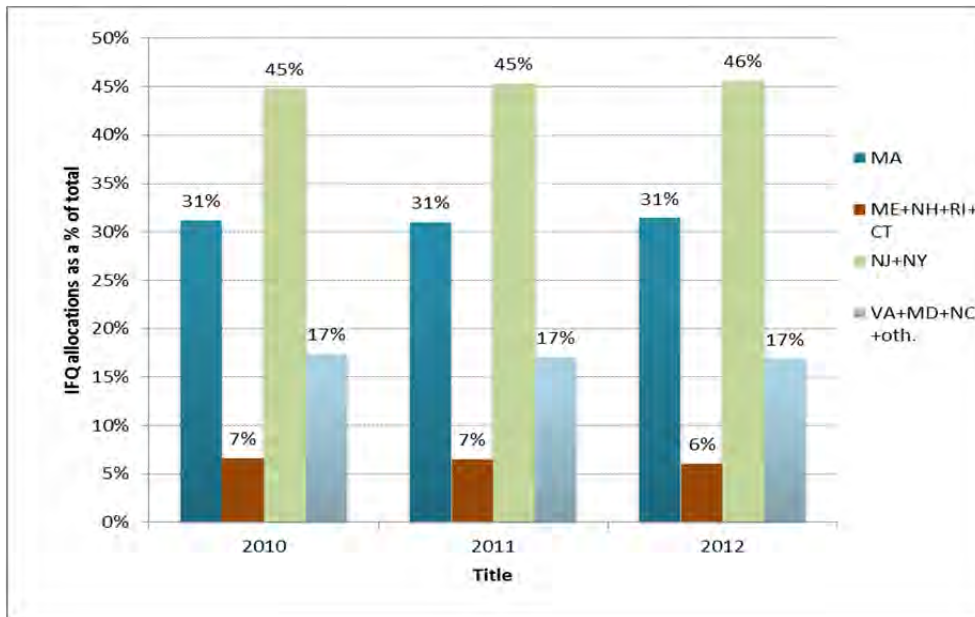


Figure 72. Scallop landings as a % of total by primary state

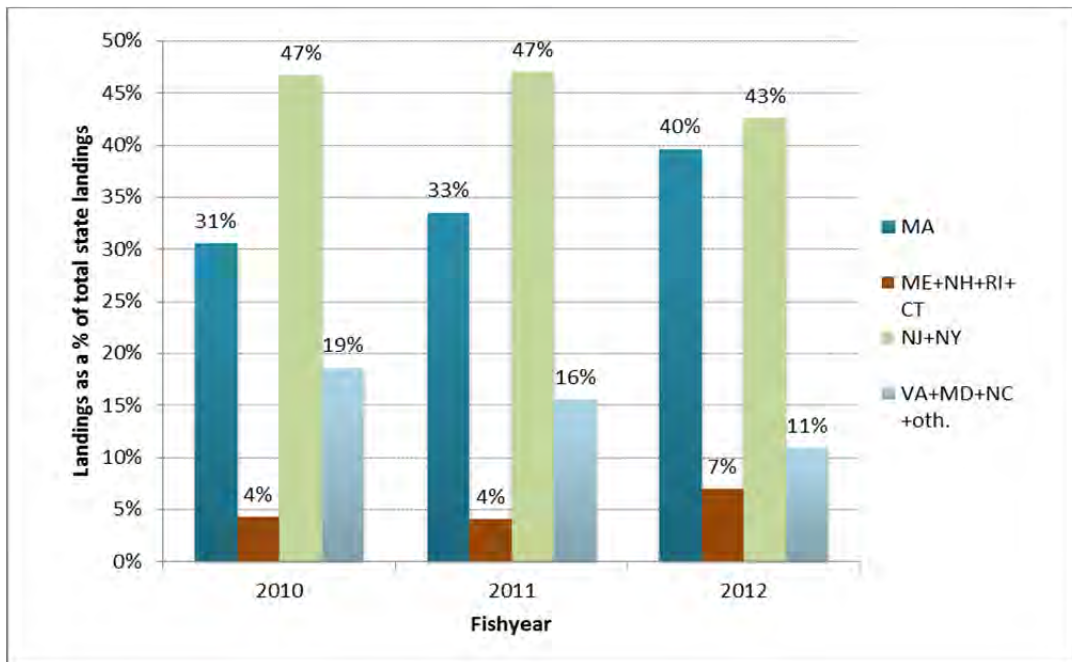


Figure 73. Leasing activity by primary state

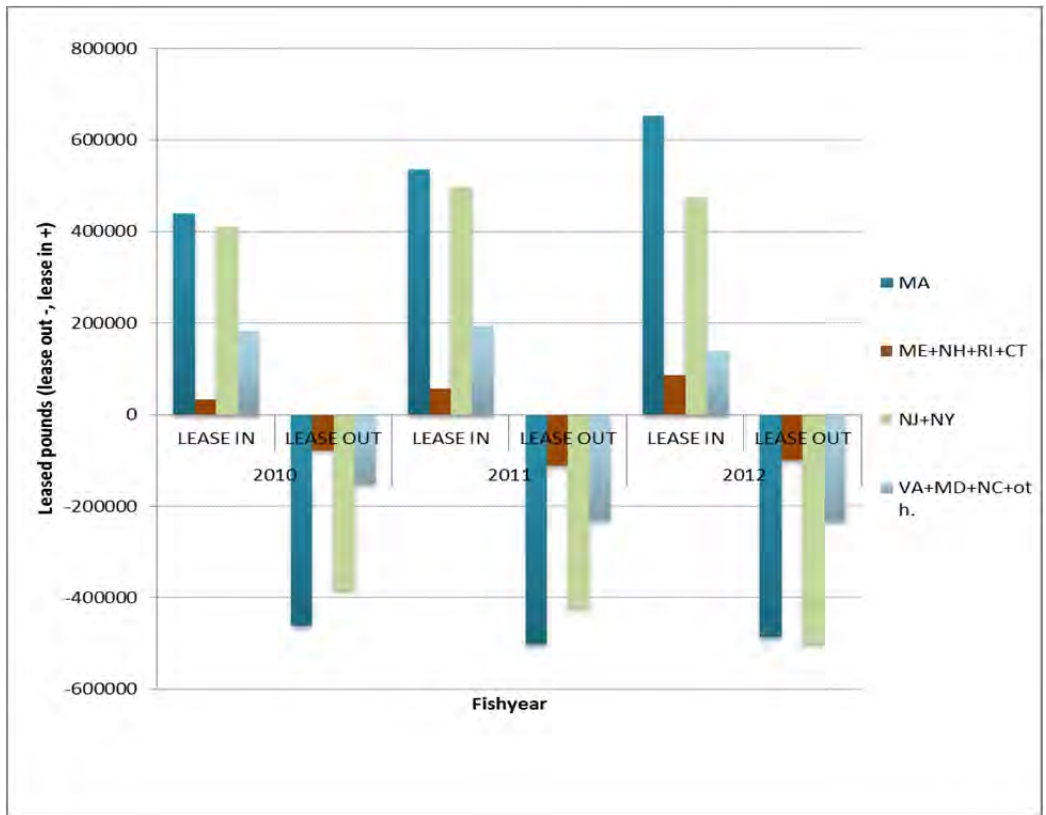
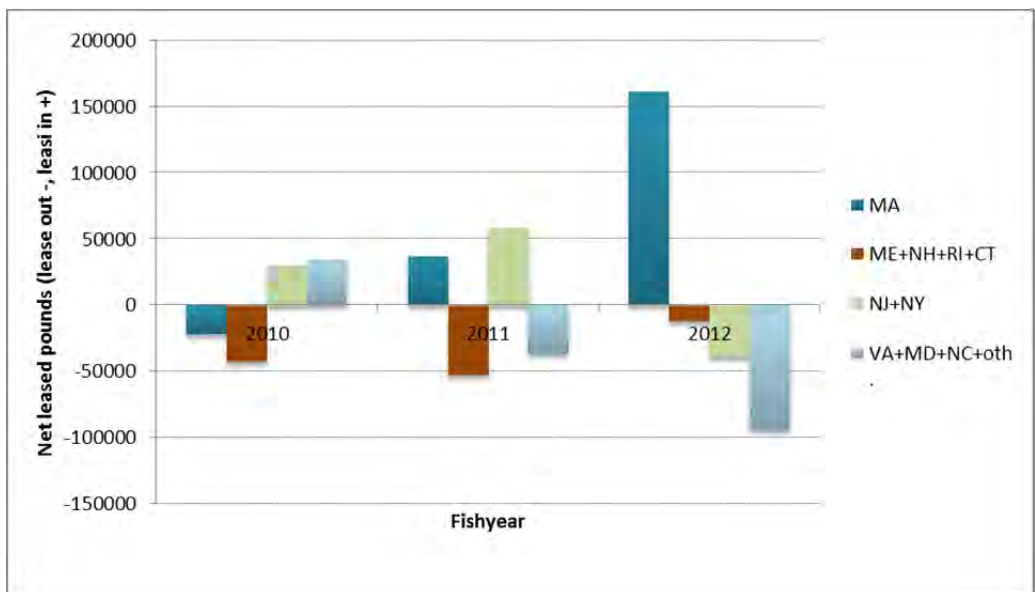


Figure 74. Net leasing activity by primary state



1.12 Vessel Characteristics

- The number of active large LAGC IFQ vessels with a length ranging from 50ft to 75ft., declined while the number of active vessels in other categories remained relatively stable during 2010 to 2012 years (Figure 75). Similarly, there has been a slight decline in the average GRT and average horsepower per active vessel in the same period. Because of the possession limits, catching the quota on a smaller vessel would be more economical in terms of trip costs such as fuel.
- In 2012, those vessels that leased IFQ from others were slightly newer than those that leased out their shares (Figure 76). Similarly, those vessels that transferred their IFQ to others were relatively older (average year built=1984) than the ones (average year built=1990) that bought quota from others both in 2010 and 2012 (Figure 77). This is expected to reduce the fixed costs such as repairs and increase profits to some extent for owners operating new vessels.

Figure 75. Number of active LAGC IFQ vessels by length group.

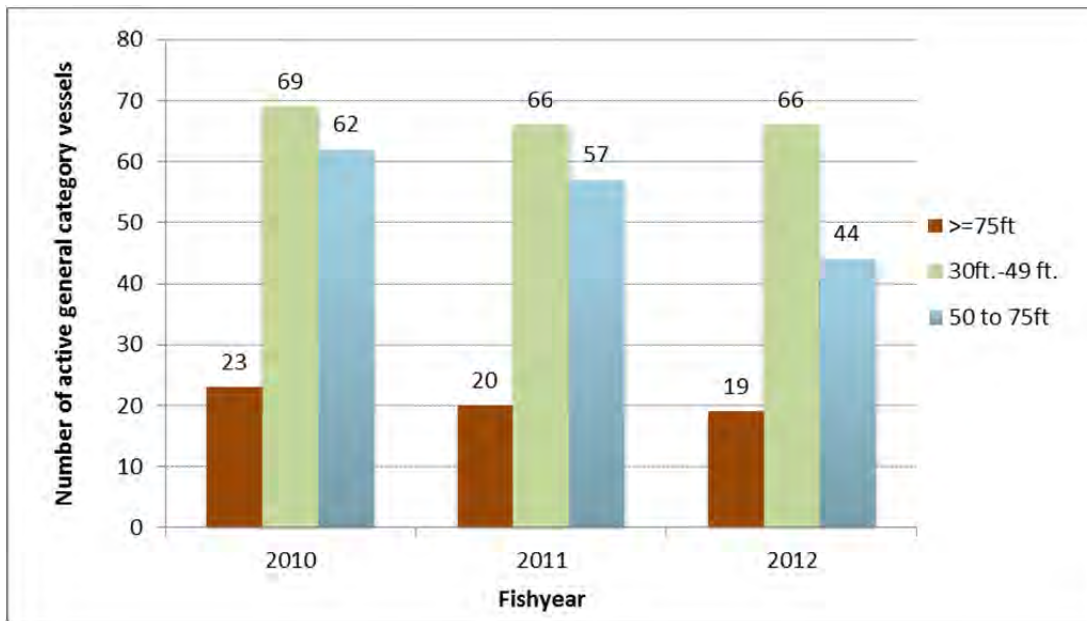


Figure 76. Average year built of the LAGC IFQ vessels by leasing group

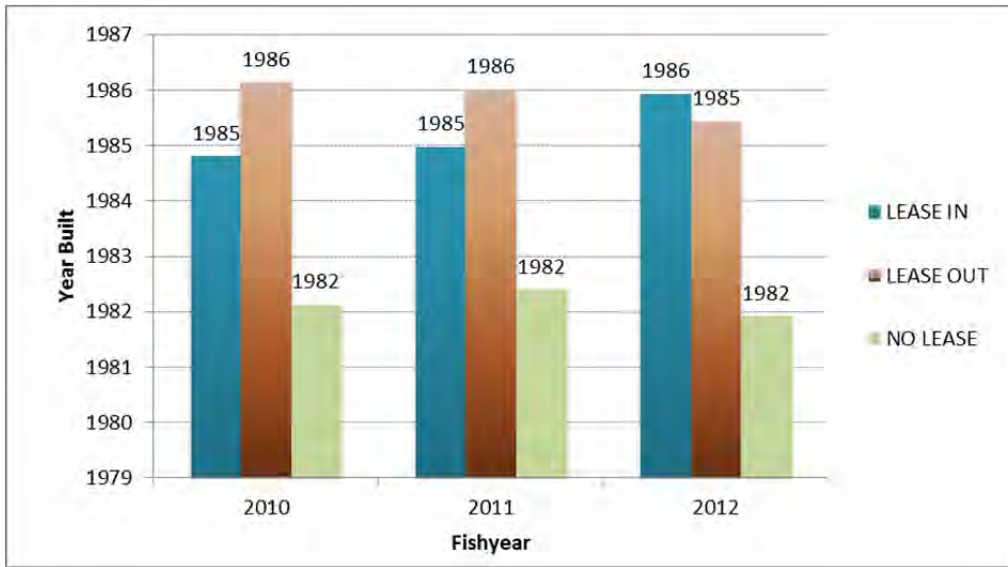


Figure 77. Average year built of the LAGC IFQ vessels by transfer group

