LAGC IFQ Economic Performance

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Scallop AP and Committee
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New England
Fishery Management Council

Data items and sources

Data items

1. LAGC IFQ permit number , permit type and moratorium ids
2. Business and owner id
3. IFQ allocations, carryover and adjustments
4. Scallop landings and revenue
5. Leased amount and value
6. Permit leased from and leased to
7. Amount transferred and price
8. Permit transferred from and transferred to
9. Home port and vessel characteristics
10. Variable and fixed costs
11. Crew lay system

Data sources

1. Permit data
2. Allocation and carry-over tables
3. Owner and business tables (several databases)
4. Moratorium eligibility criteria (replacement s, permits in CPH)
5. Leasing tables
6. Transfer Tables
7. Dealer data
8. Interactive IFQ vessels tracking interface
9. VMS
10. Observer data for trip costs
11. Survey data for fixed costs and crew lay system

Challenges in constructing data for analyses

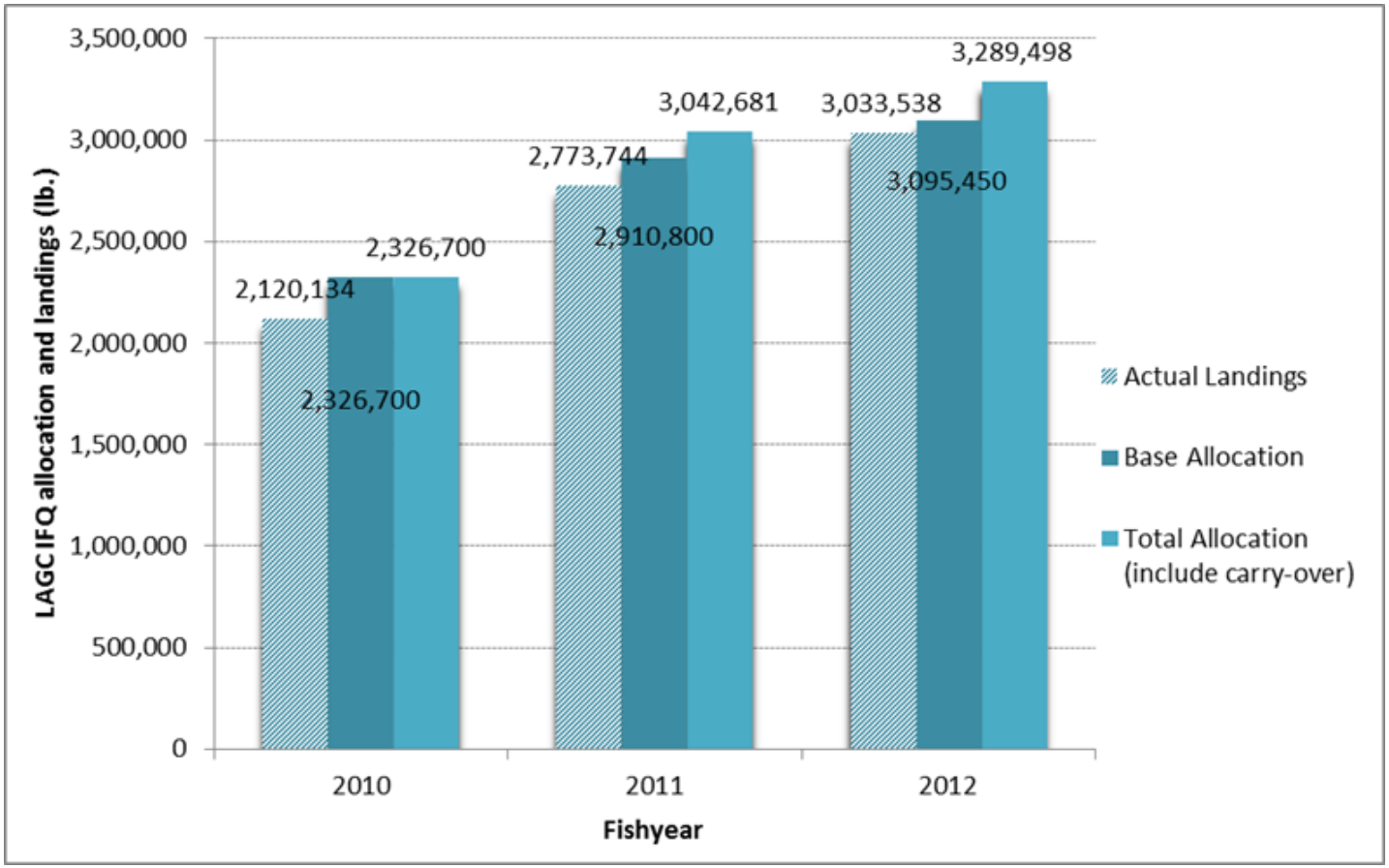
1. Data tables not having a common id for the vessel or permit. Some databases use permits, some original permit number and some permit number for the current vessel.
2. The allocations are determined at the beginning of the fishing year for each permit. Vessel replacements resulting in new permit numbers, leasing or transfer of IFQ to another owner during the fishing year makes it very difficult matching the allocation amounts with landings, leased or transferred amounts.
3. Similarly, existence of multiple owners (individuals for each vessel) and the issues with identifying the vessels and permits, makes it very difficult to trace the owners for the permits who received allocations, who transferred or leased or landed the quota.
4. Many times landings were recorded by dealers in the old permit complication matching.
5. Above factors and imperfections in each database confound the difficulties, often requiring tracking the changes in vessels and owners manually using multiple databases, a very time consuming task.

PDT Finding

PDT Finding – The data for the LAGC IFQ fishery is currently very difficult to work with. There is no common identifier for the vessel or permit, in all databases making it difficult to track transactions made during the year. For this report, staff needed to track ownership and activity manually for many entries, which was very time consuming. The PDT recommends that Council and GARFO staff meet to develop a way to organize these data so that future analyses can be conducted in a more timely way.

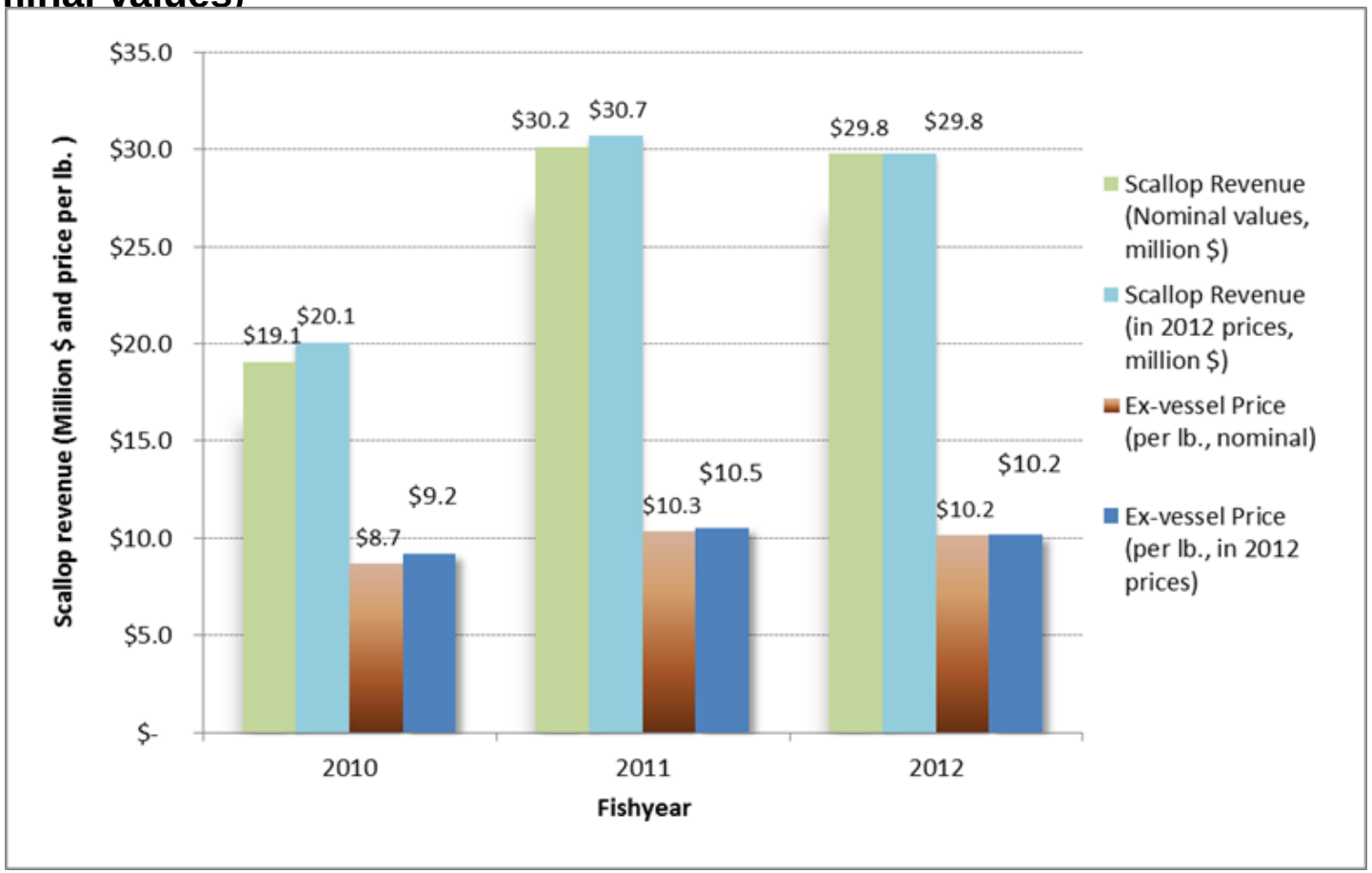
Aggregate trends in allocations and landings

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



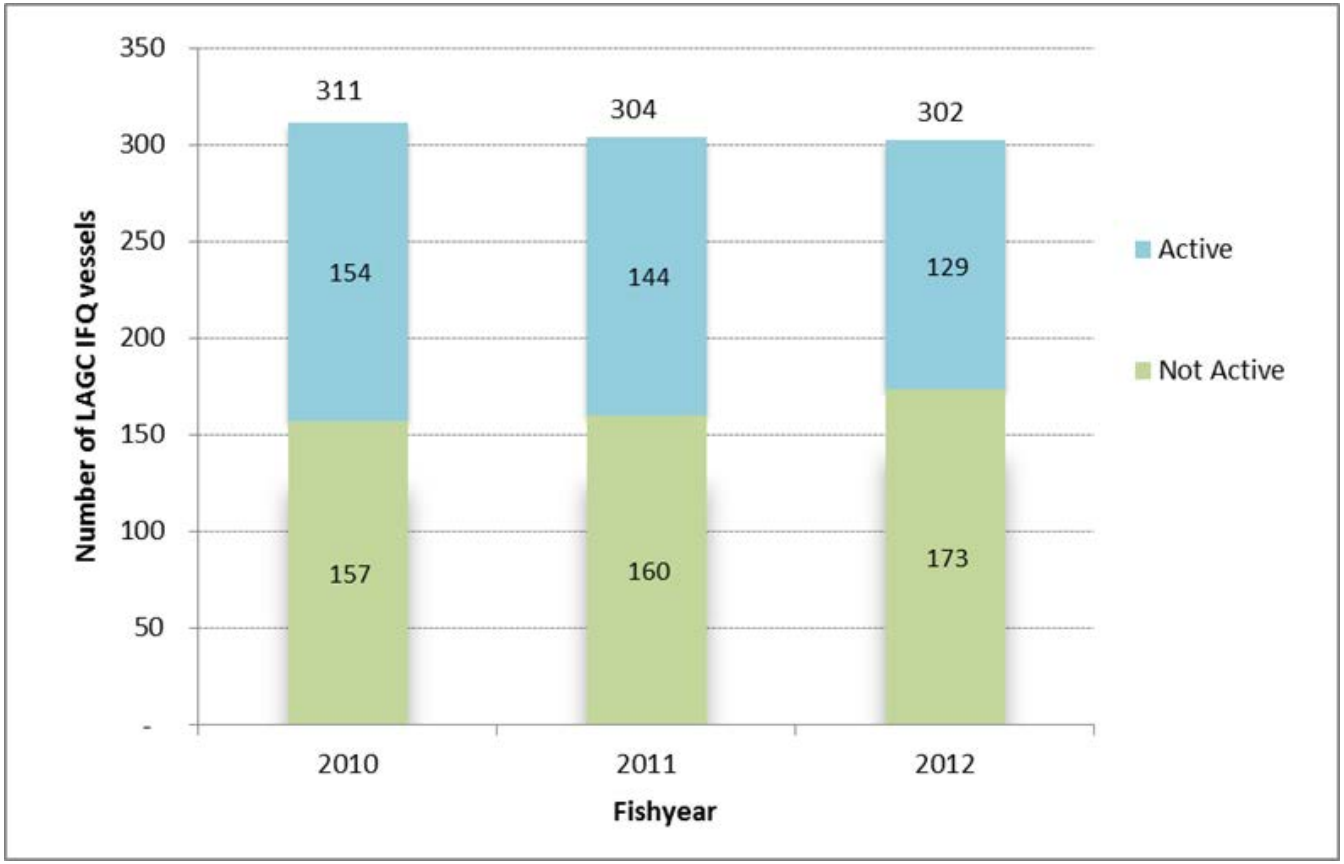
Aggregate trends in revenues

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



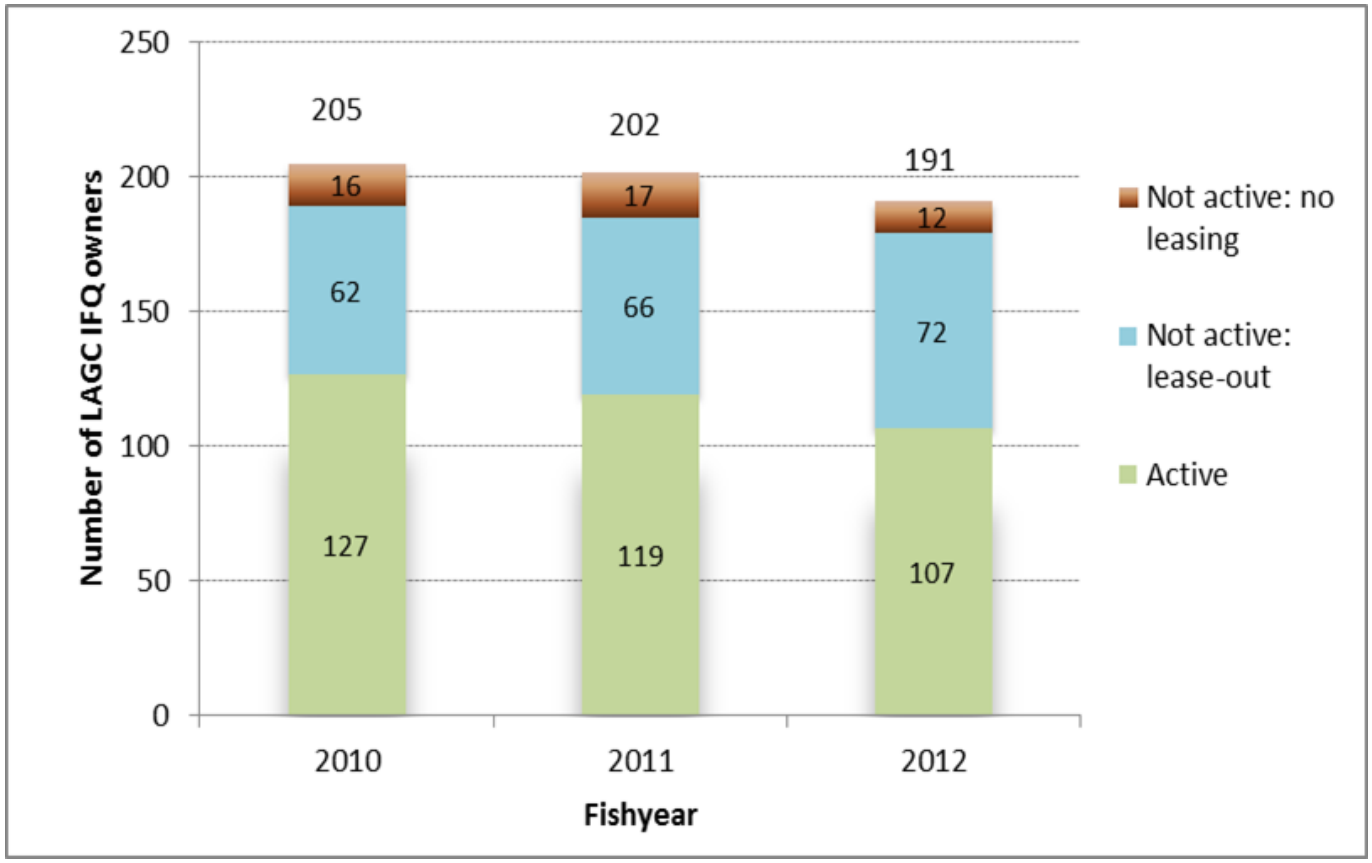
Trends in permits and activity by vessel

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



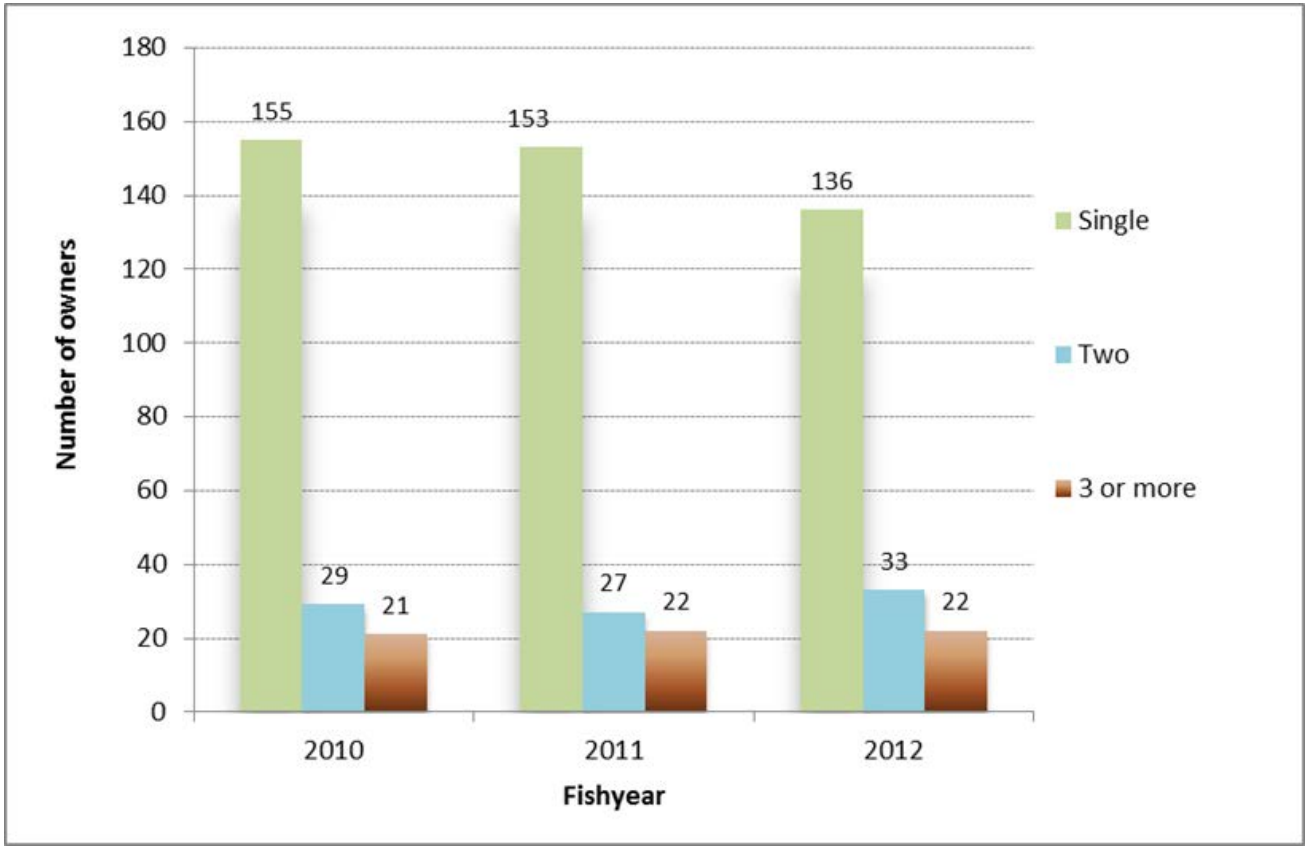
Trends in activity by owner

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



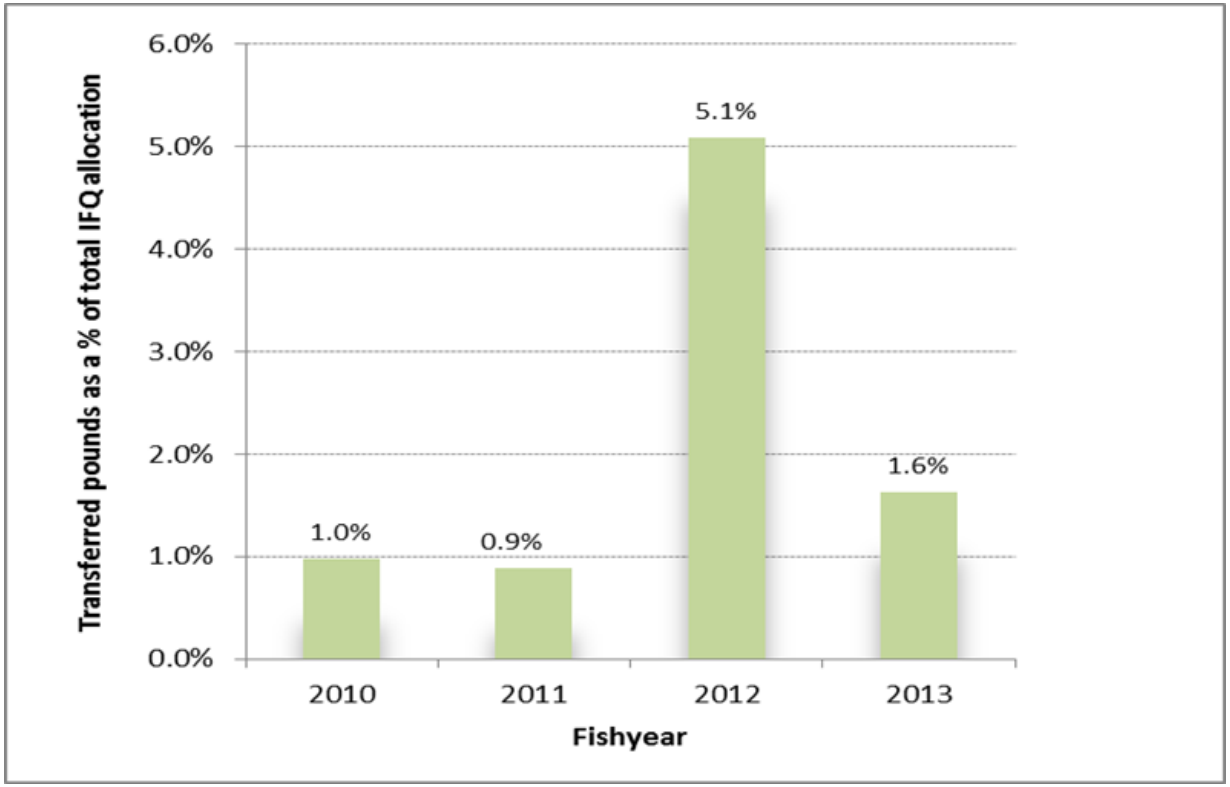
Owners by number of vessels owned

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



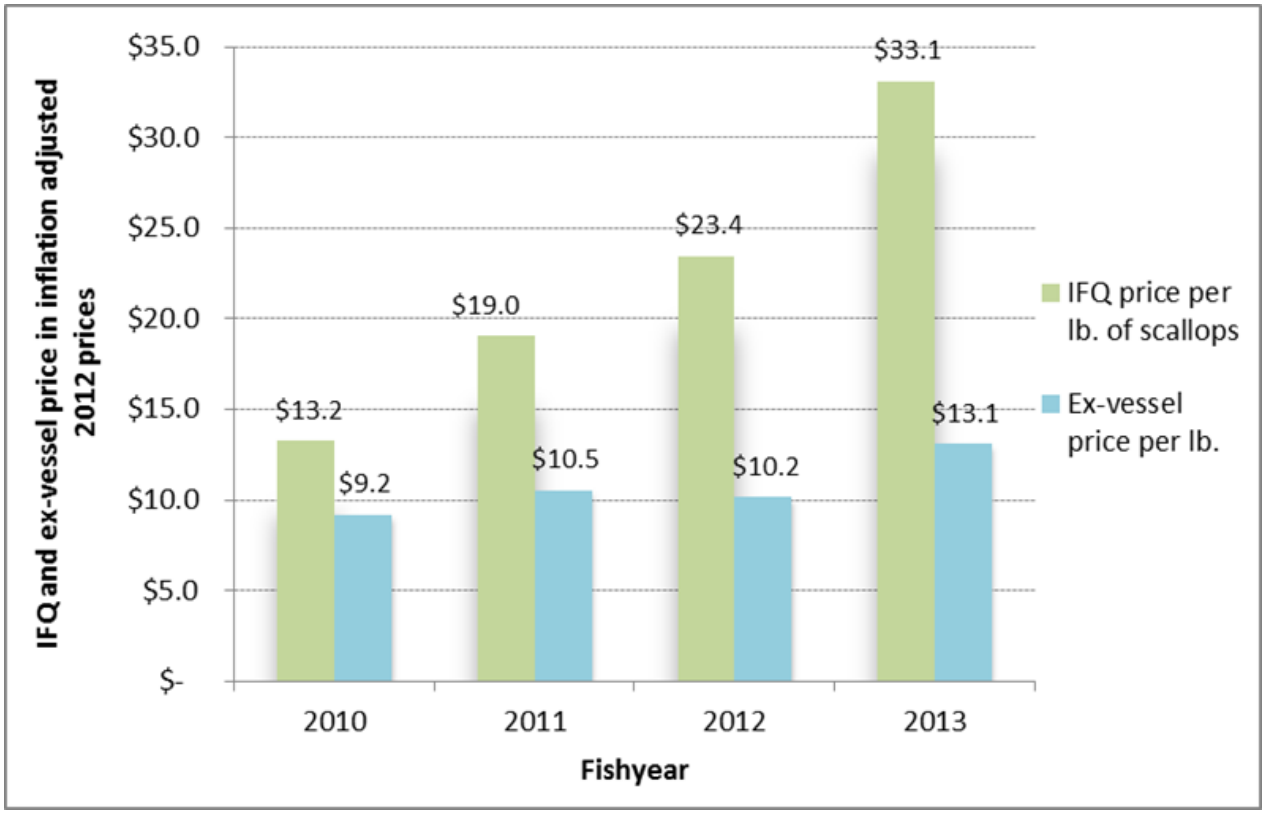
Permanent Transfers

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)



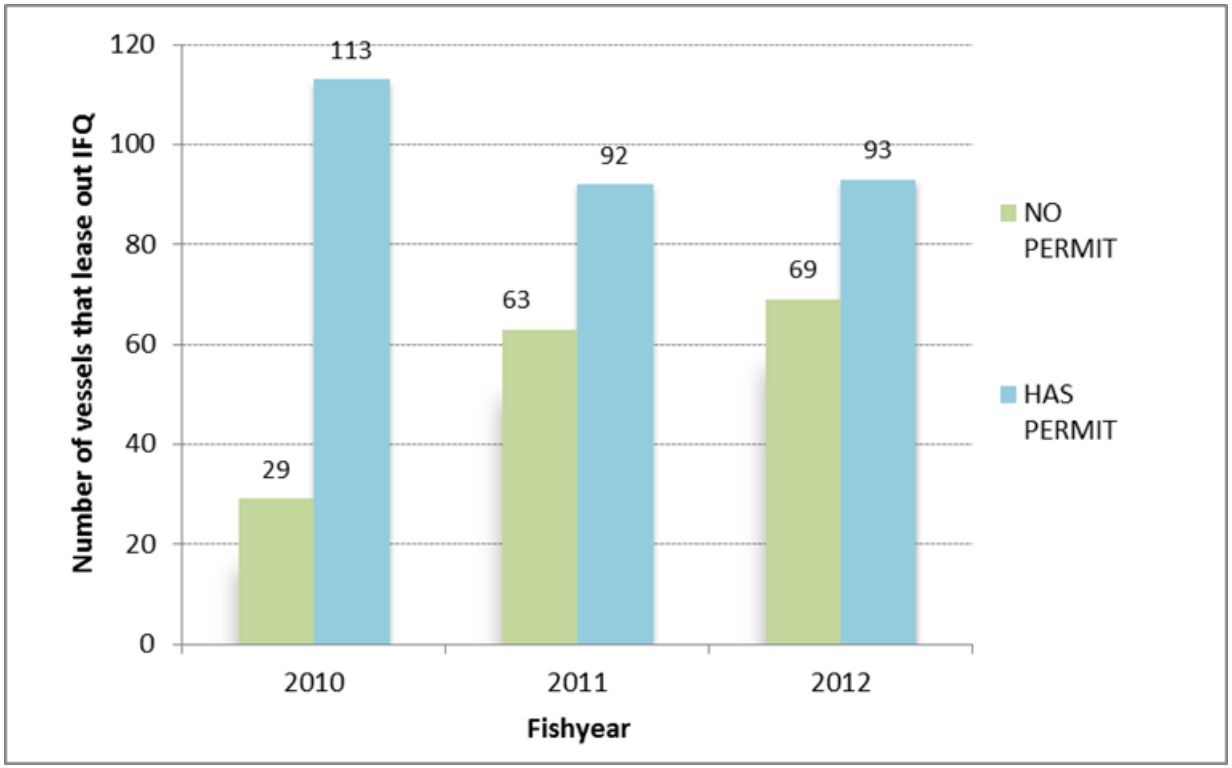
Transfer Prices

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)



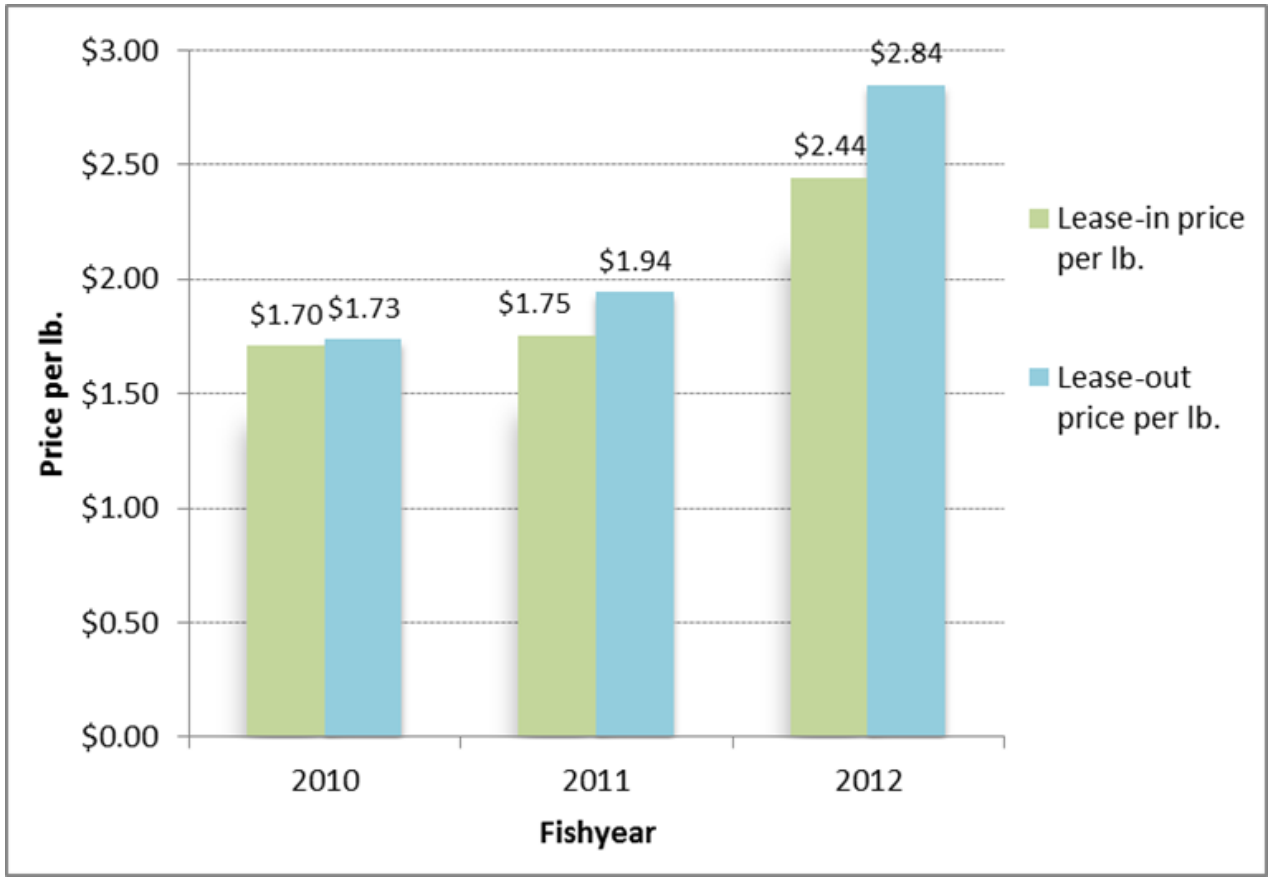
Leasing Out by Vessel and Permit type

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



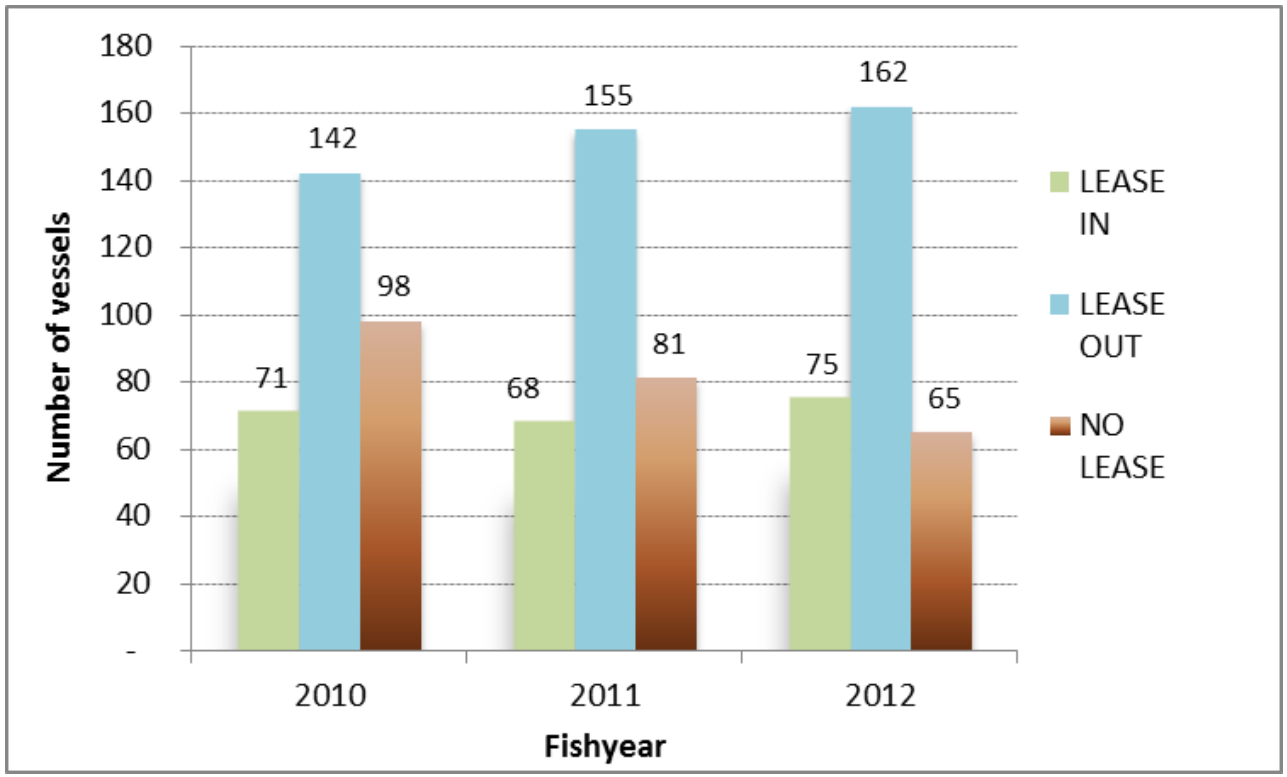
Lease Prices

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



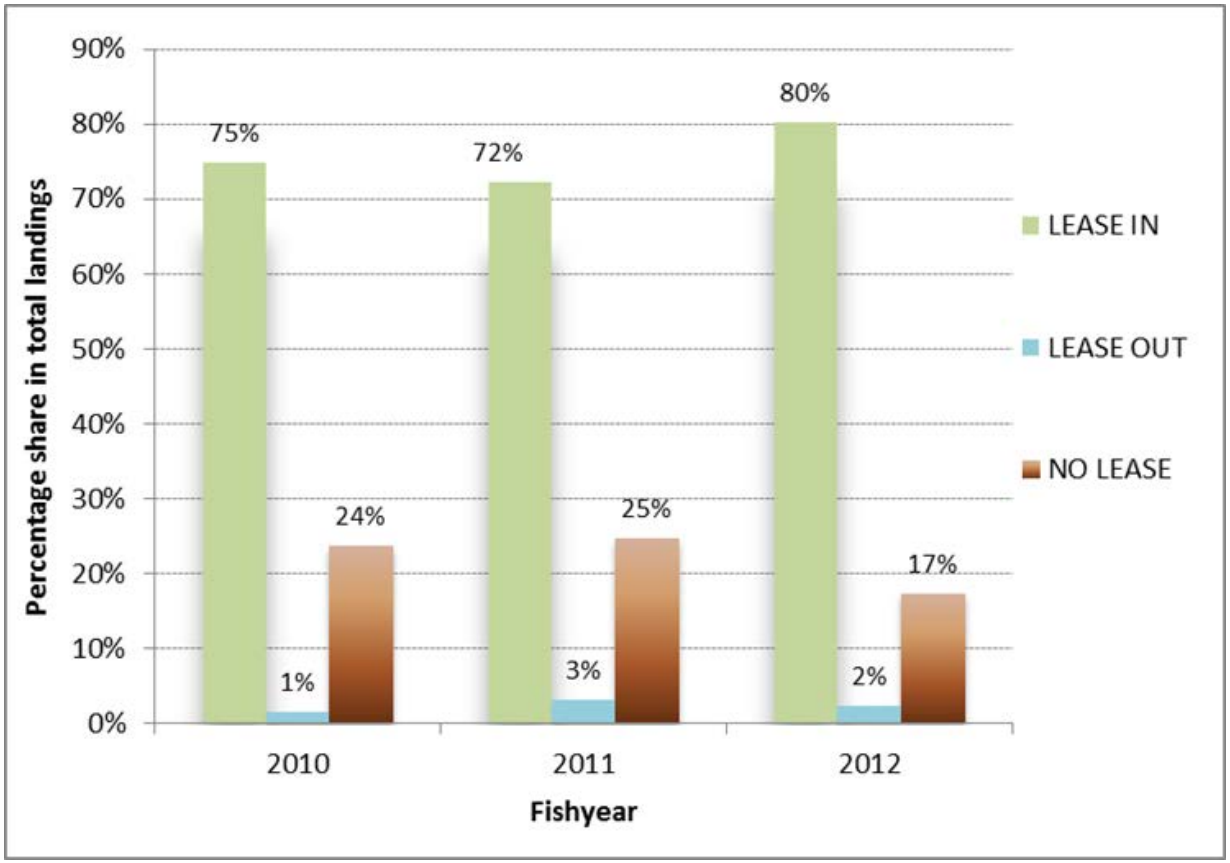
Leasing Activity by Vessels

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



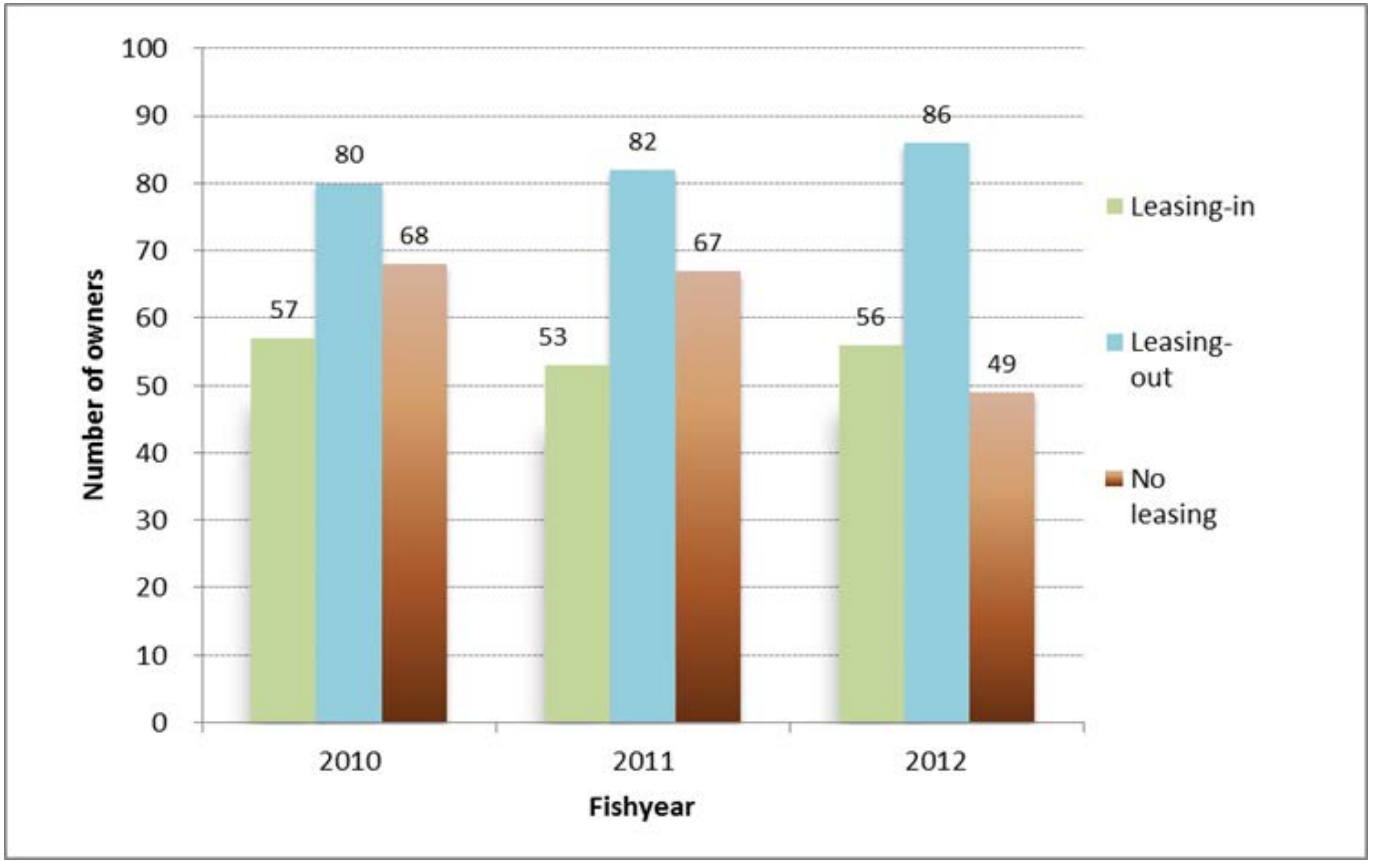
Landings by Lease in groups

Figure 29. Percentage share of landings by leasing activity



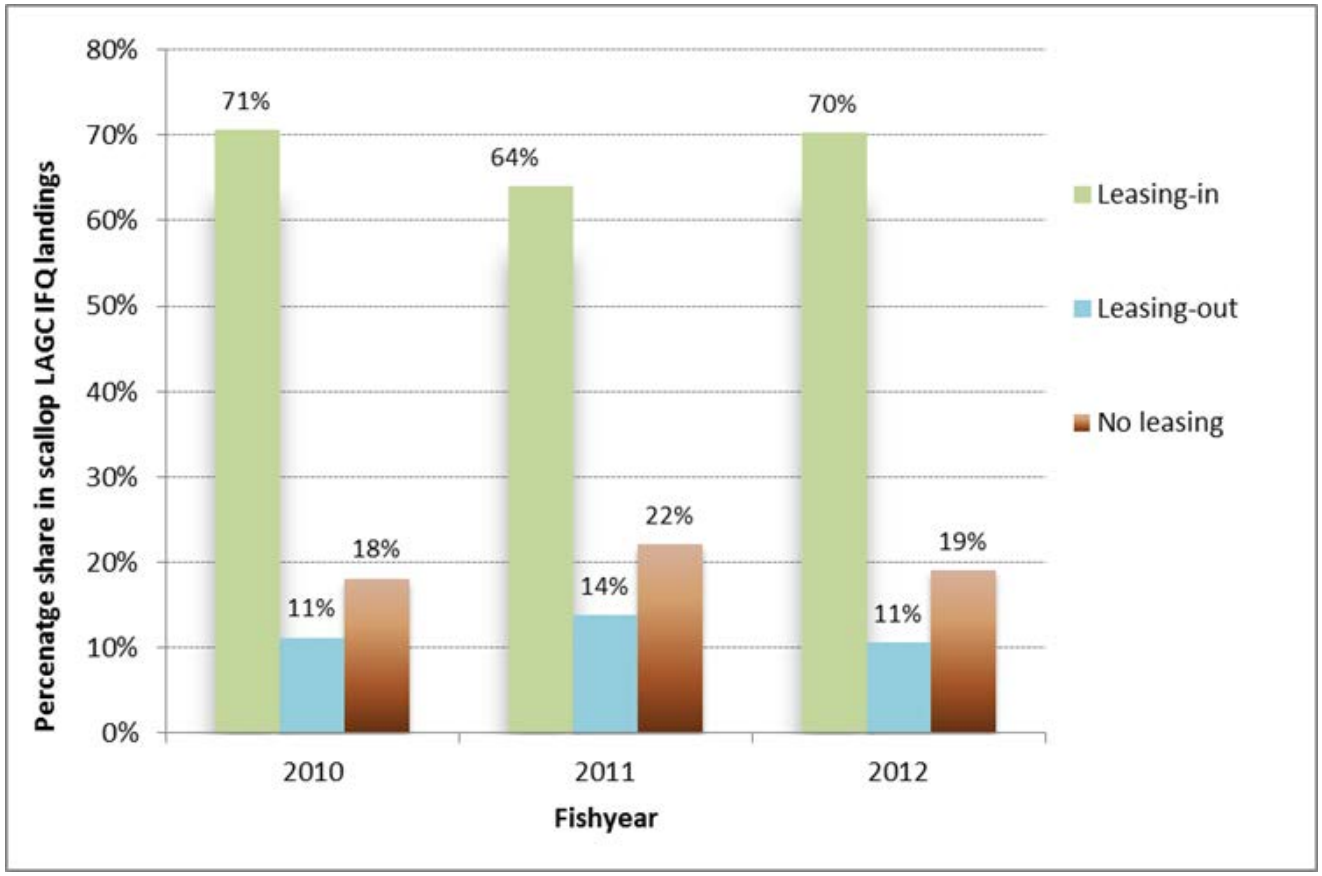
Leasing by Owner

Figure 37. Number of owners by leasing activity



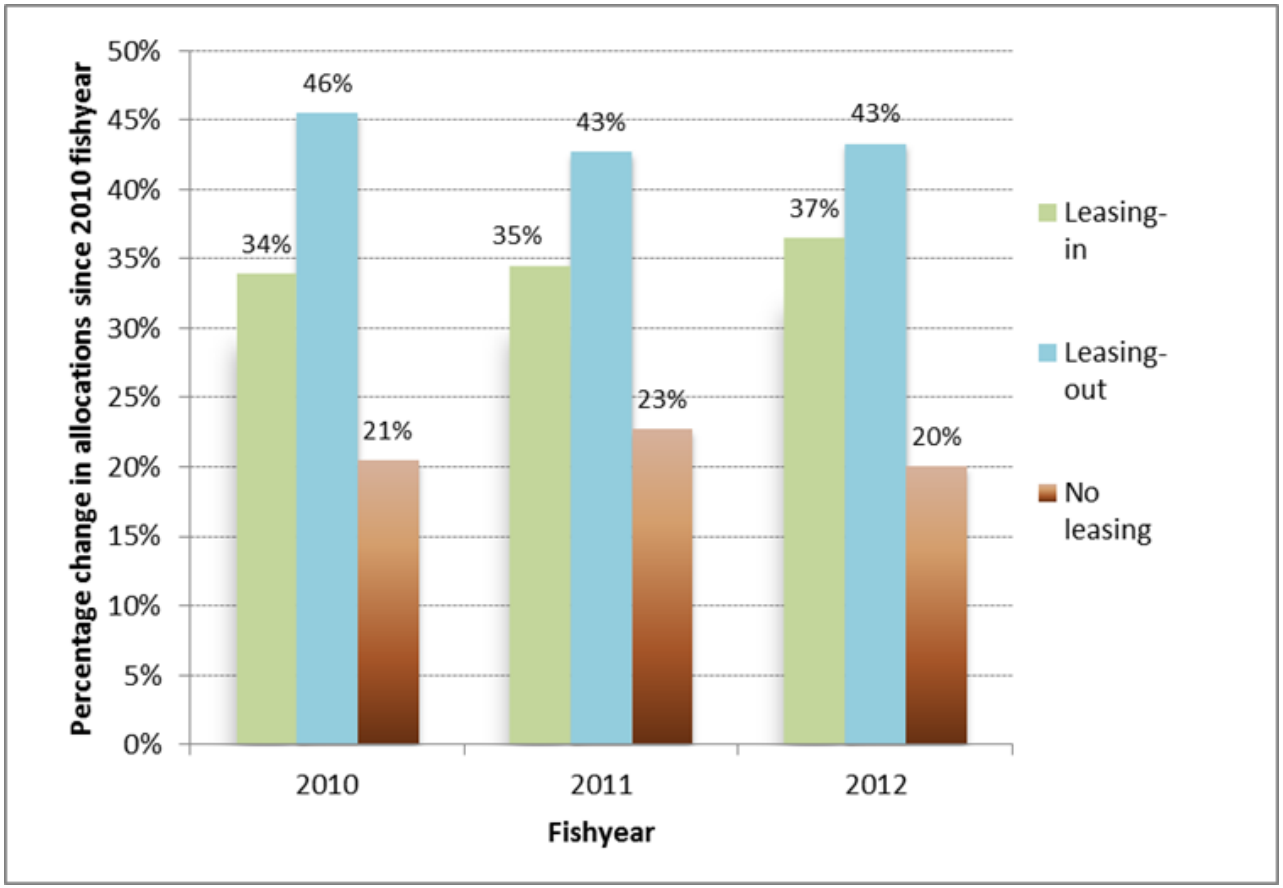
Landings by Lease Groups

Figure 38. Percentage share in scallop landings by lease group



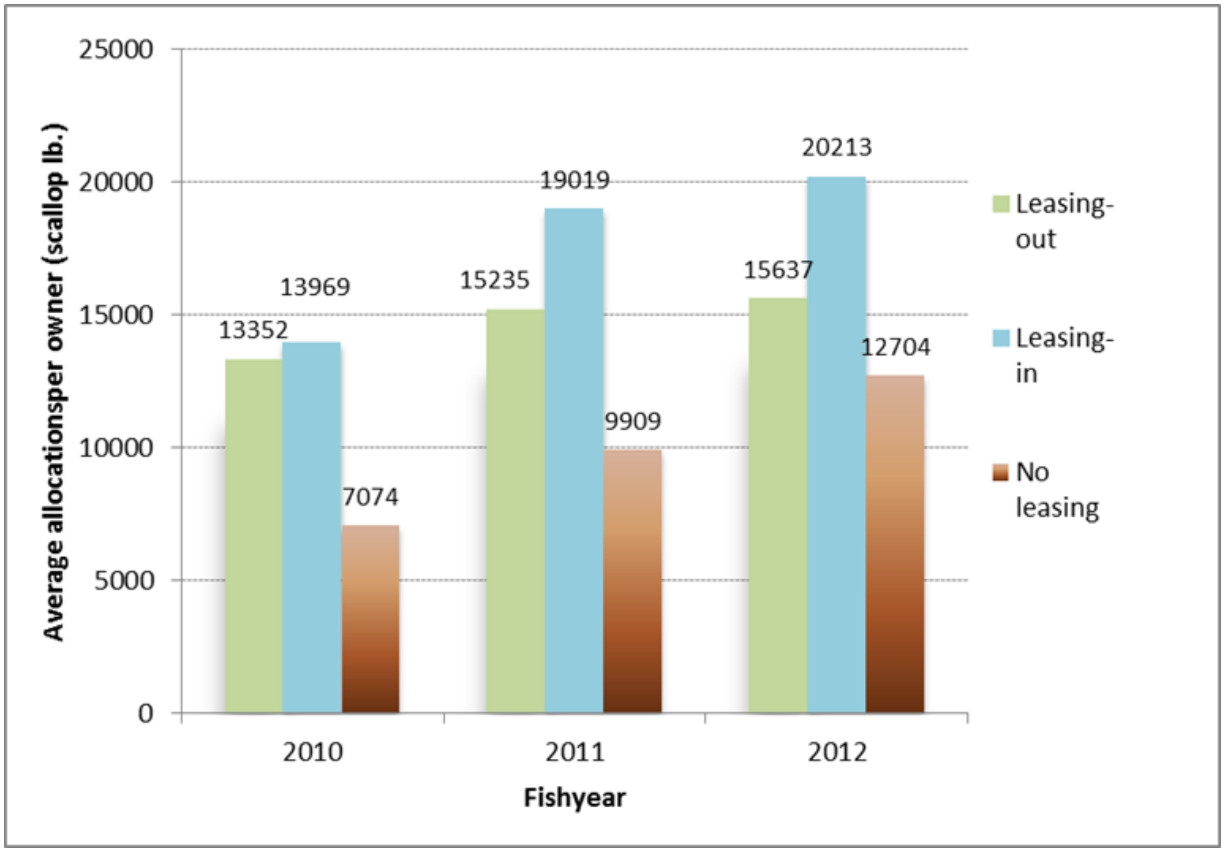
Allocations by Lease Groups

Figure 39. Percentage allocations by lease group



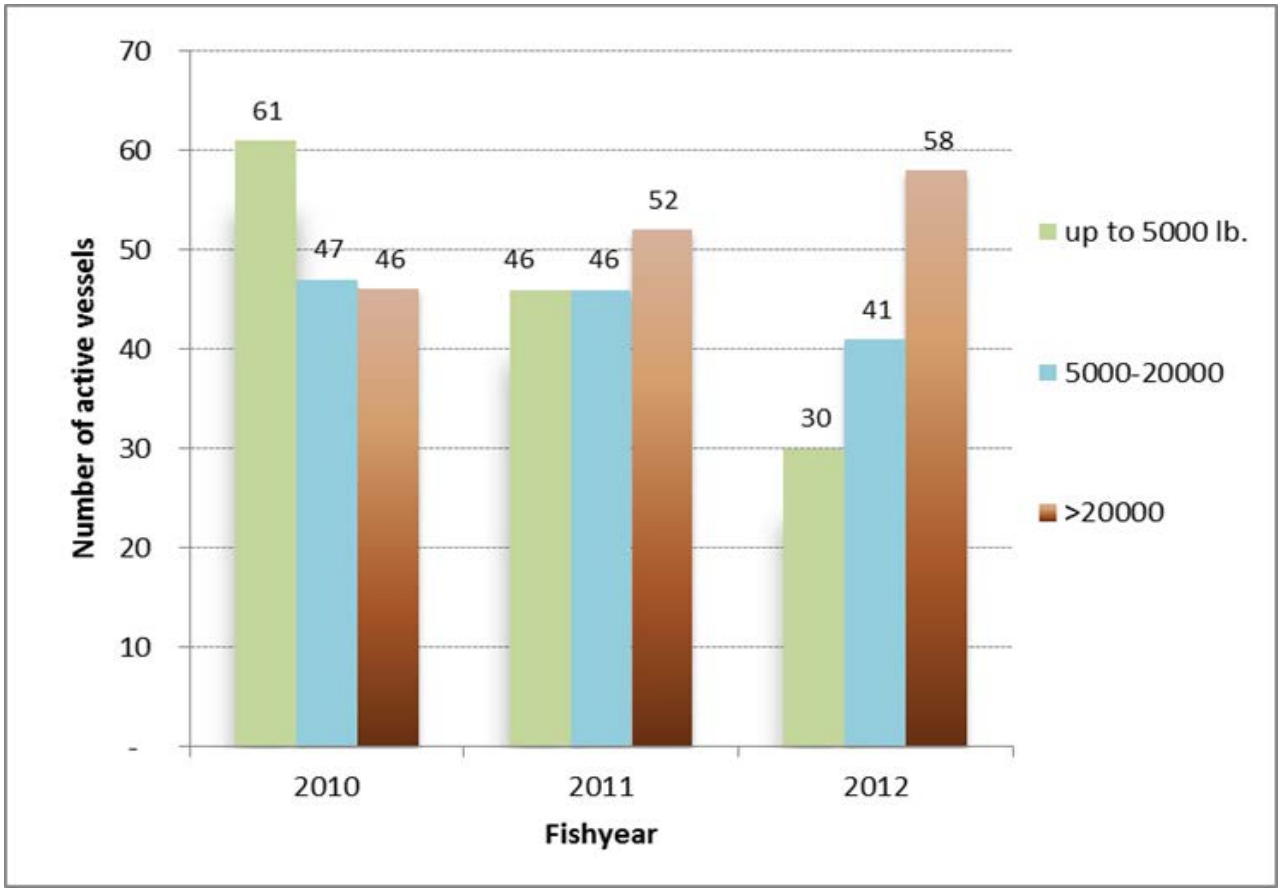
Allocations by Lease Groups

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



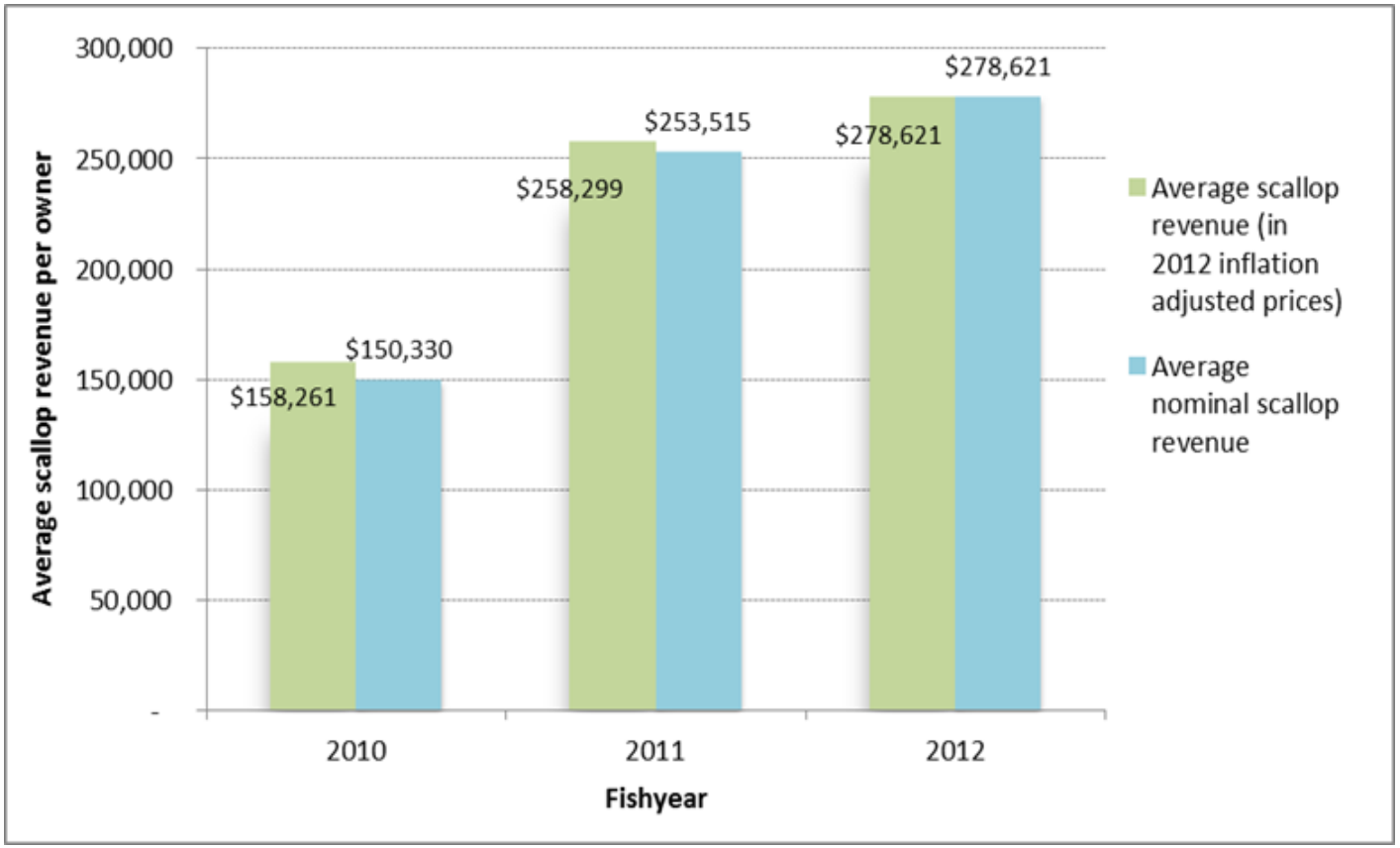
Composition of landings by vessel

Figure 44. Number of active vessels by pounds landed



Gross real scallop revenue per active owner

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



Average Net revenue

- For owners who lease out their IFQ:

  net revenue= earning from leasing out (lease value)

- For active owners who lease in IFQ from others: net revenue= annual scallop revenue

  - annual trip costs – lease cost

- For active owners who do not engage in leasing: net revenue=annual scallop revenue

  - annual trip costs

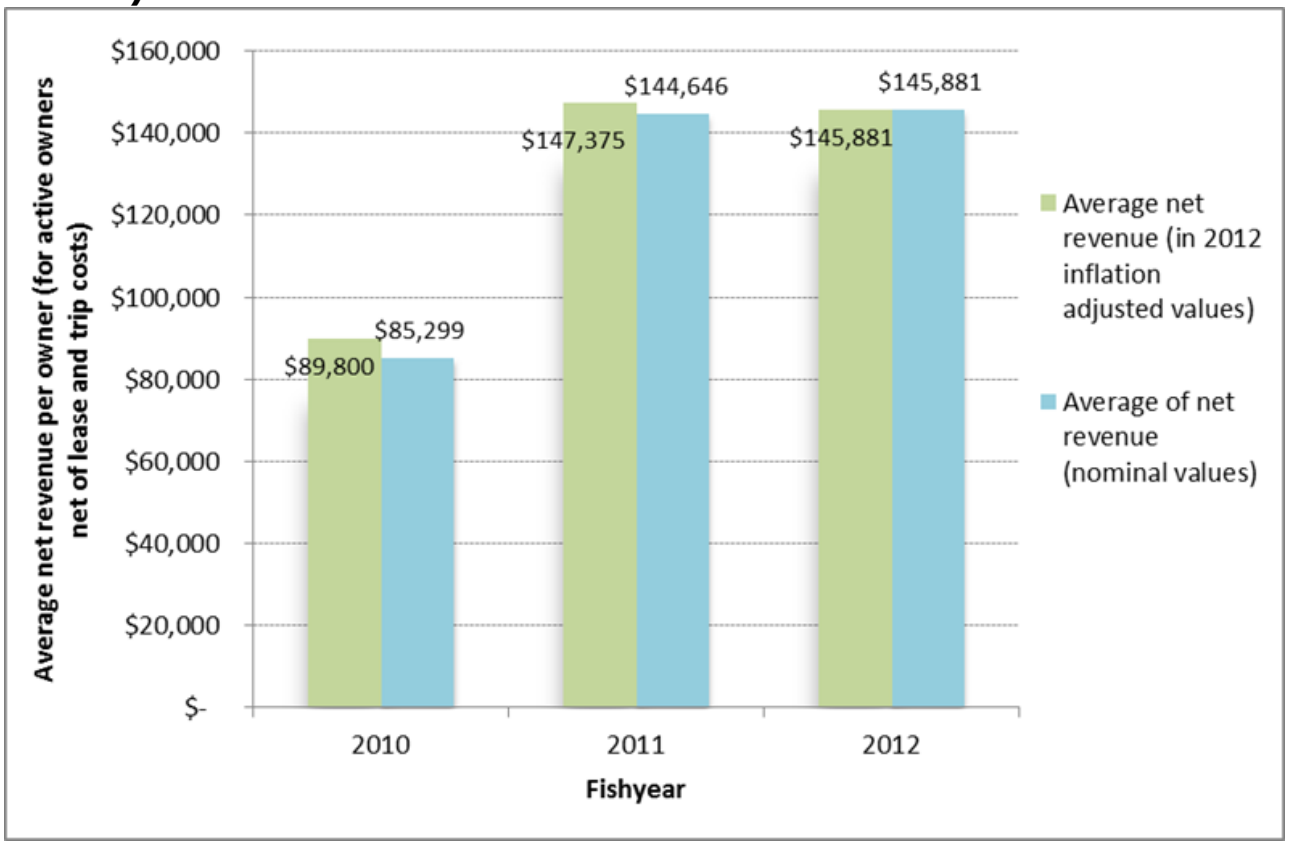
- Trip costs include food, fuel, oil, ice, water and supplies and estimate from the cost function for each vessel.

Estimation of leasing costs

- When data was available, the recorded lease costs was used to estimate the value or cost of lease.
- For those leasing transactions with no reported lease cost, they were projected to be equal to the average annual lease price for the corresponding fishing year.
- If the leasing transaction took place between vessels that belong to the same owner, leasing cost is assumed to be zero.
- In estimating the crew income and the owner's share, the lease costs.

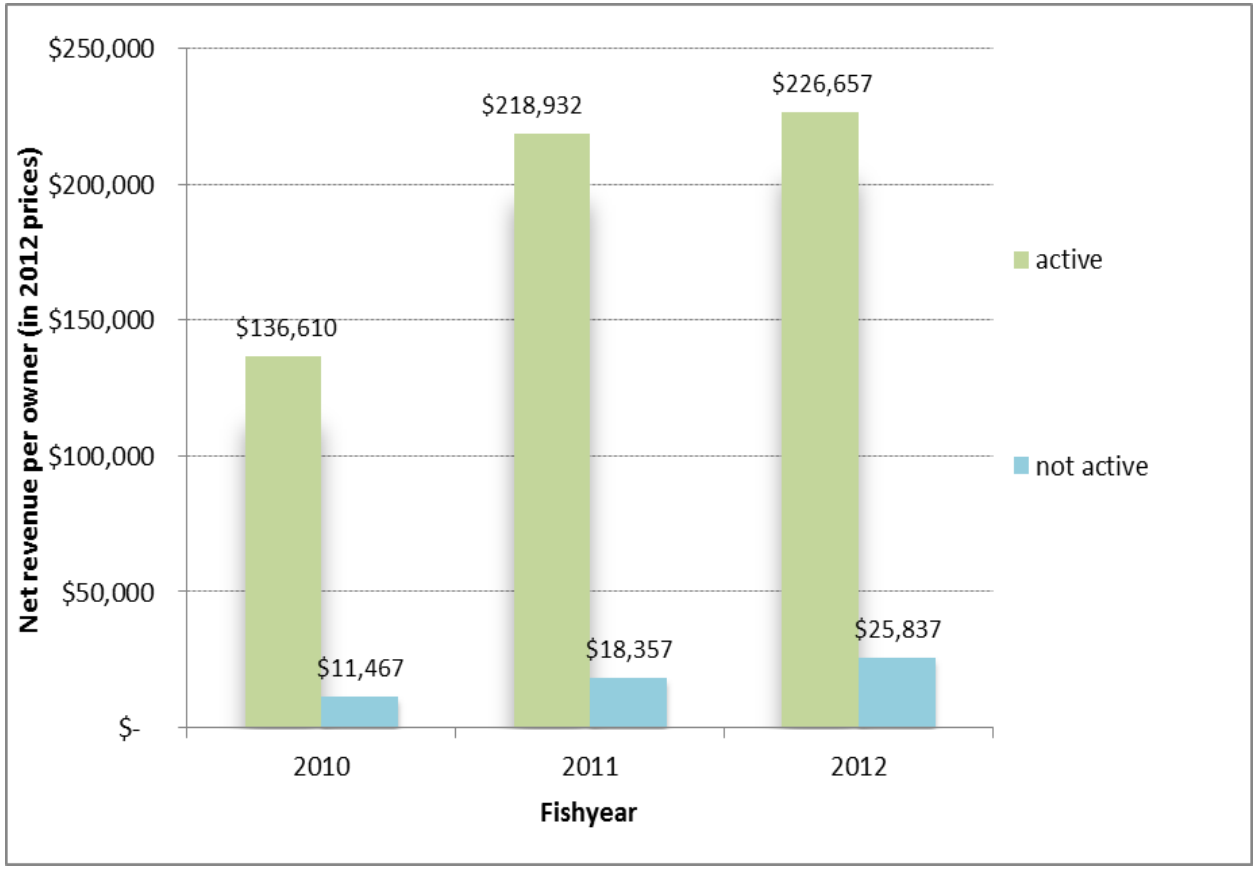
Net revenue per owner

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



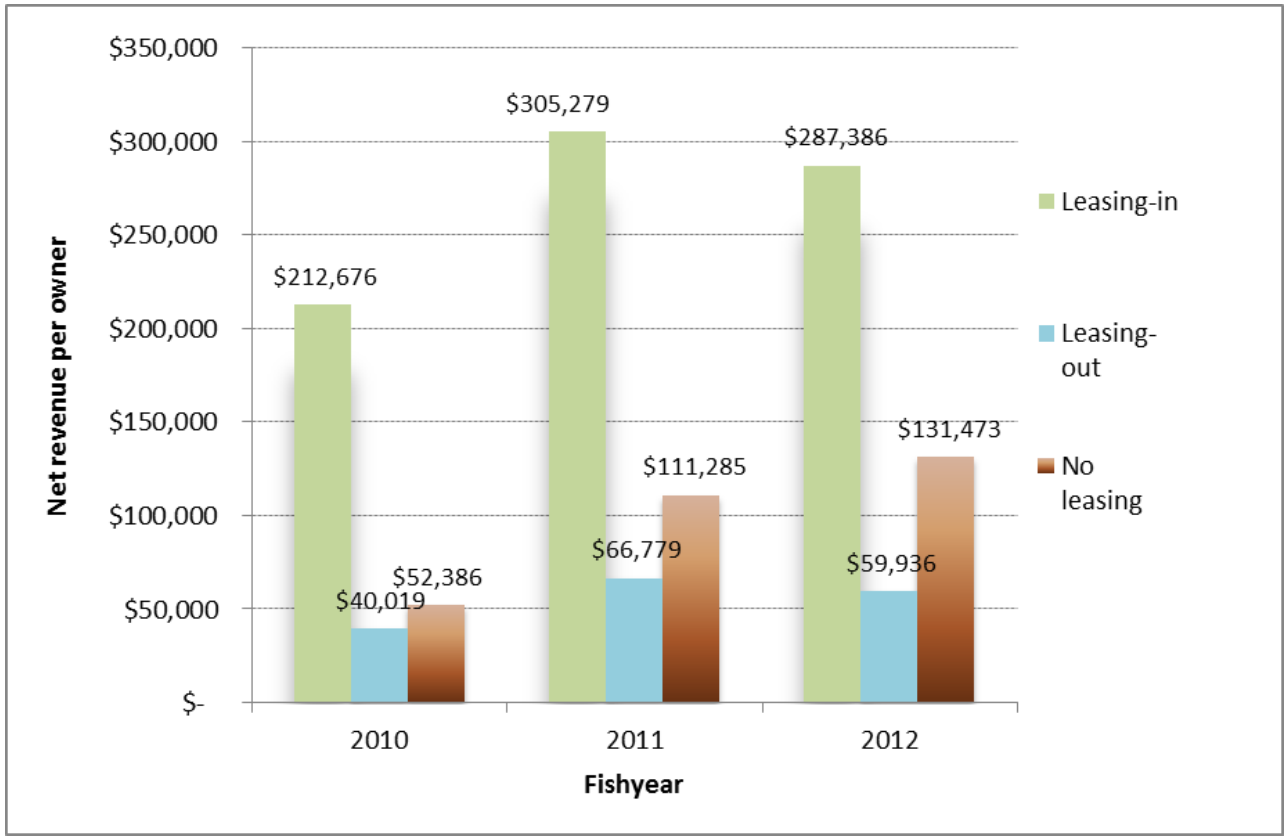
Trends in net revenue by activity

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



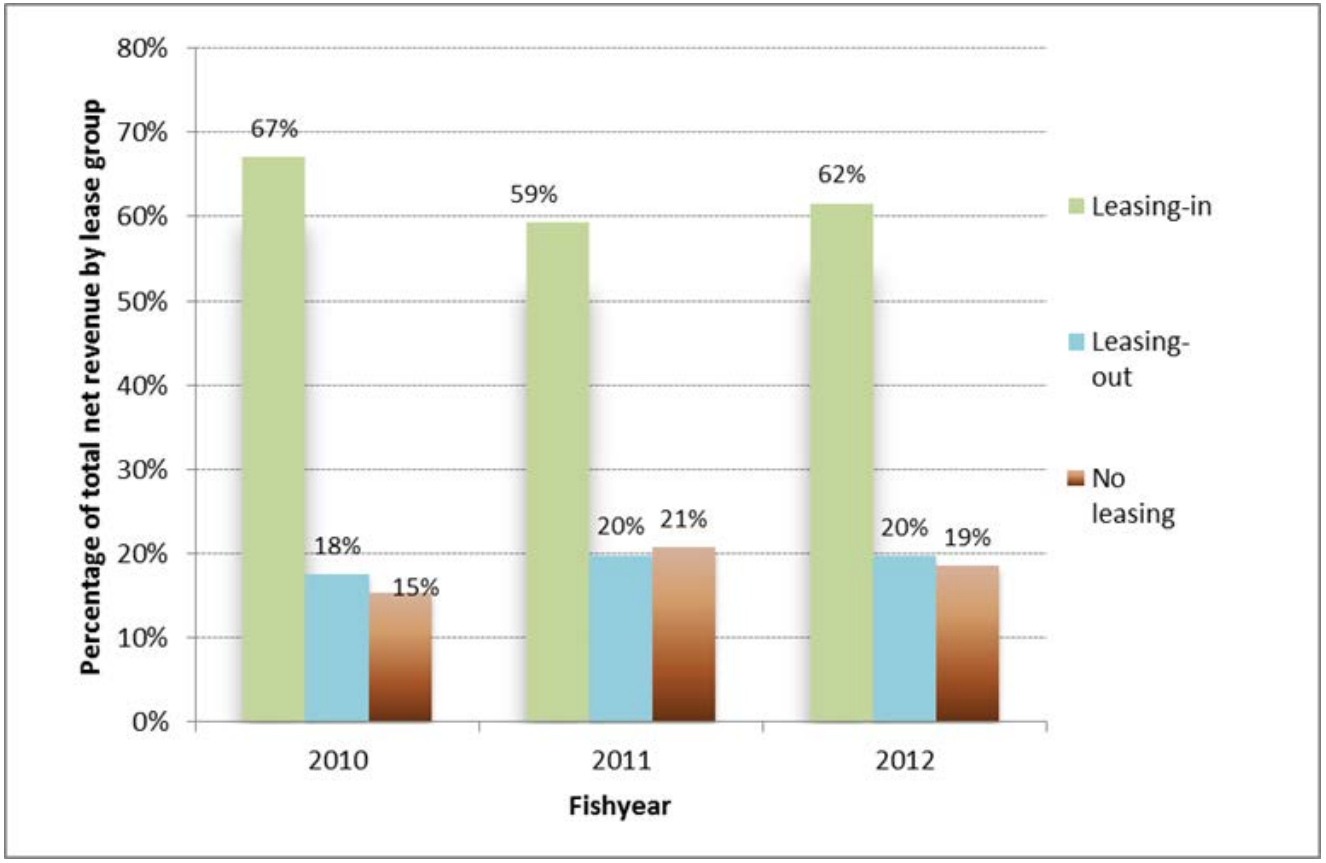
Trends in net revenue by leasing groups

Fig. 56a. Average net revenue per owner by activity (in 2012 inflation adjusted prices)



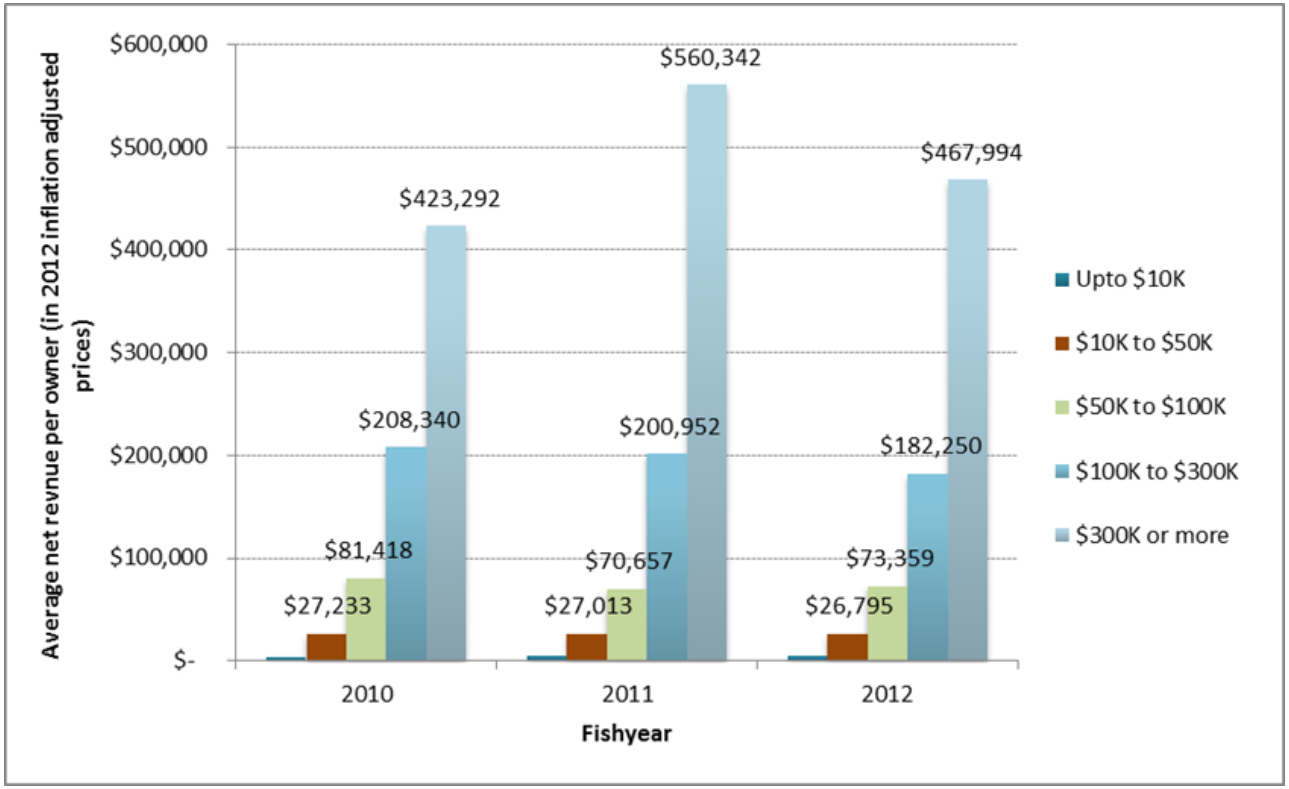
Net revenue by leasing groups (% of total)

Figure 56. Percentage distribution of net revenue by lease groups



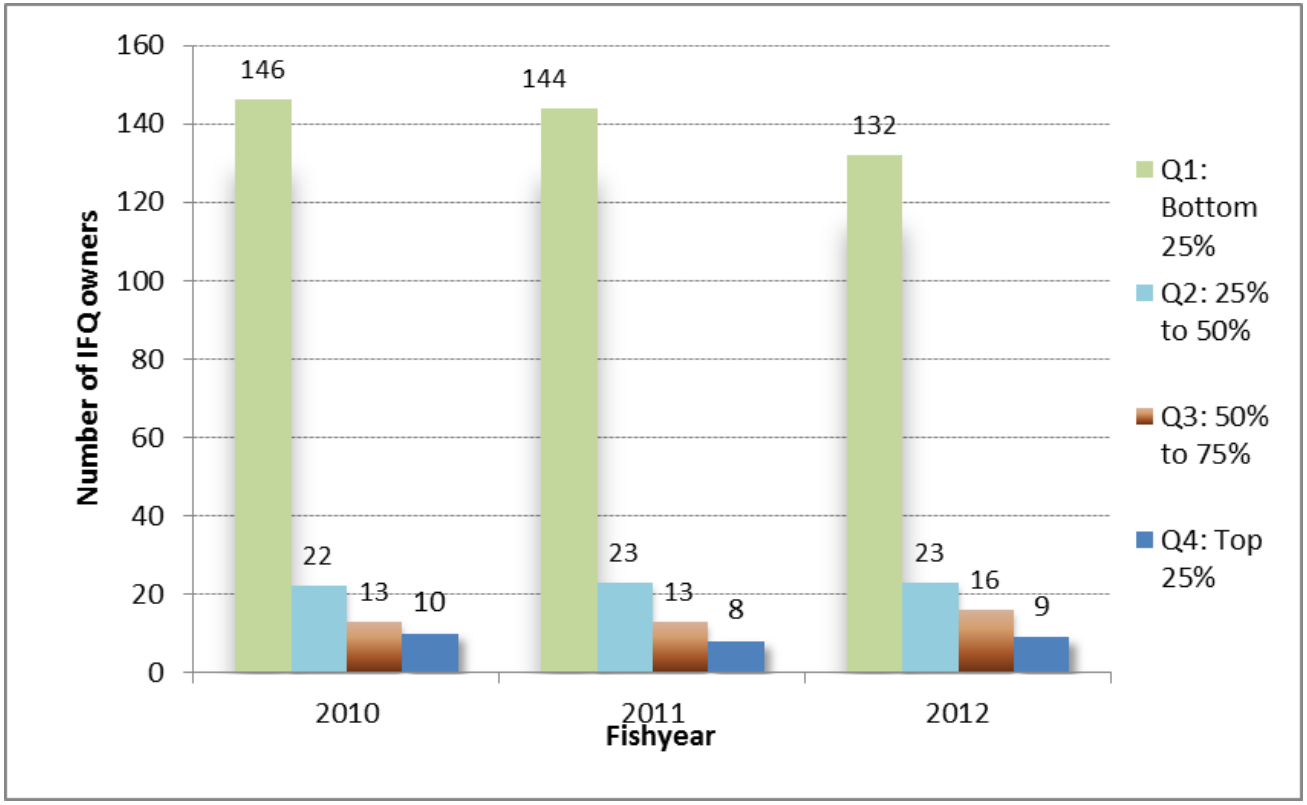
Distribution of net revenue by average revenue groups

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



Cumulative distribution of net revenue

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



Lorenz curves and Gini Coefficients

- Lorenz Curve is graphical representation of income distribution which plots the proportion of the total income of the population.
- Net scallop revenue including earning from leasing out in our case (y axis), that is cumulatively earned by the bottom x% of the population.
- Straight diagonal line represents perfect equality of incomes; the Lorenz curve lies beneath it, showing the actual income distribution.
- The difference between the straight line and the curved line is the amount of inequality of income distribution, a figure described by the Gini coefficient.

Figure 62. Lorenz curve for LAGC-IFQ owners for scallop revenue net of leasing and trip costs (2012 fishing year)

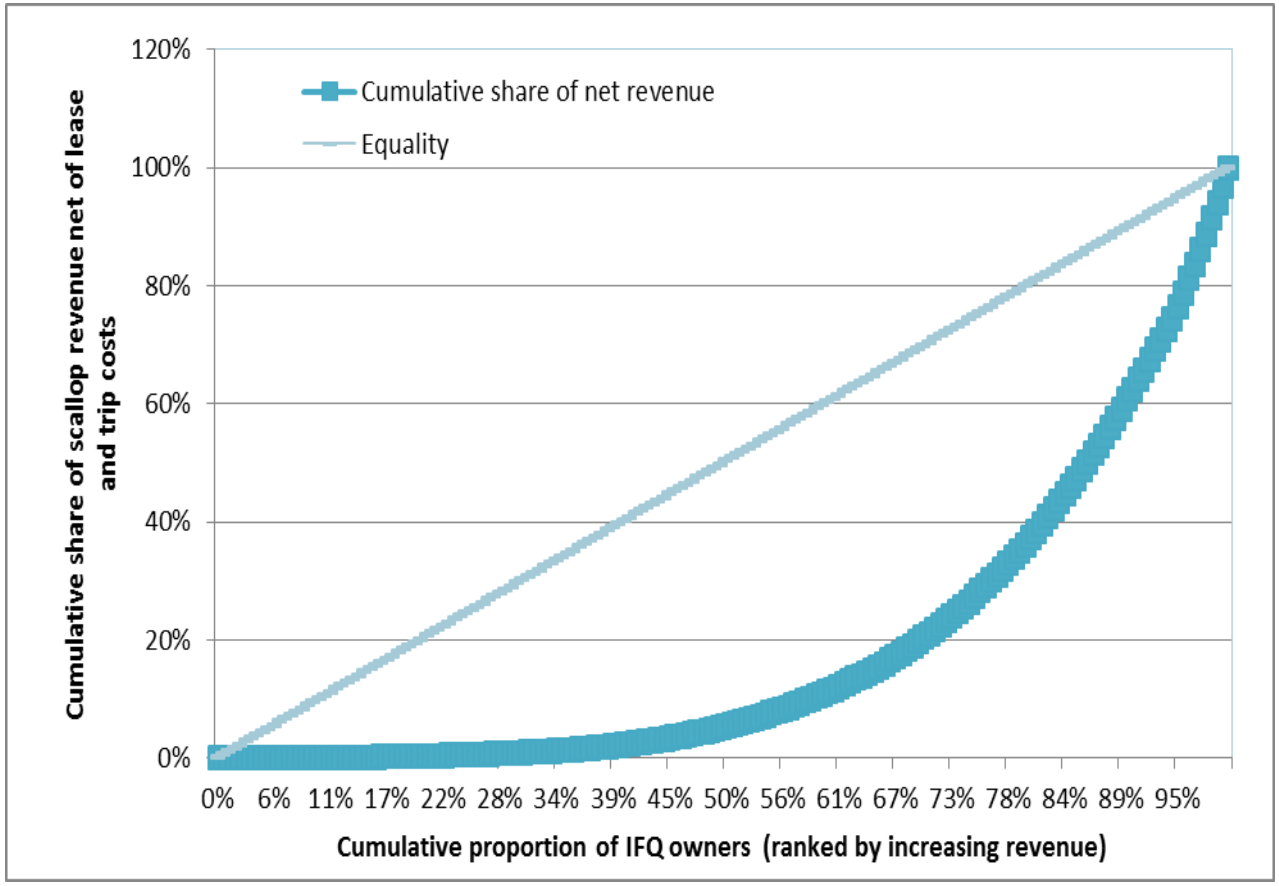
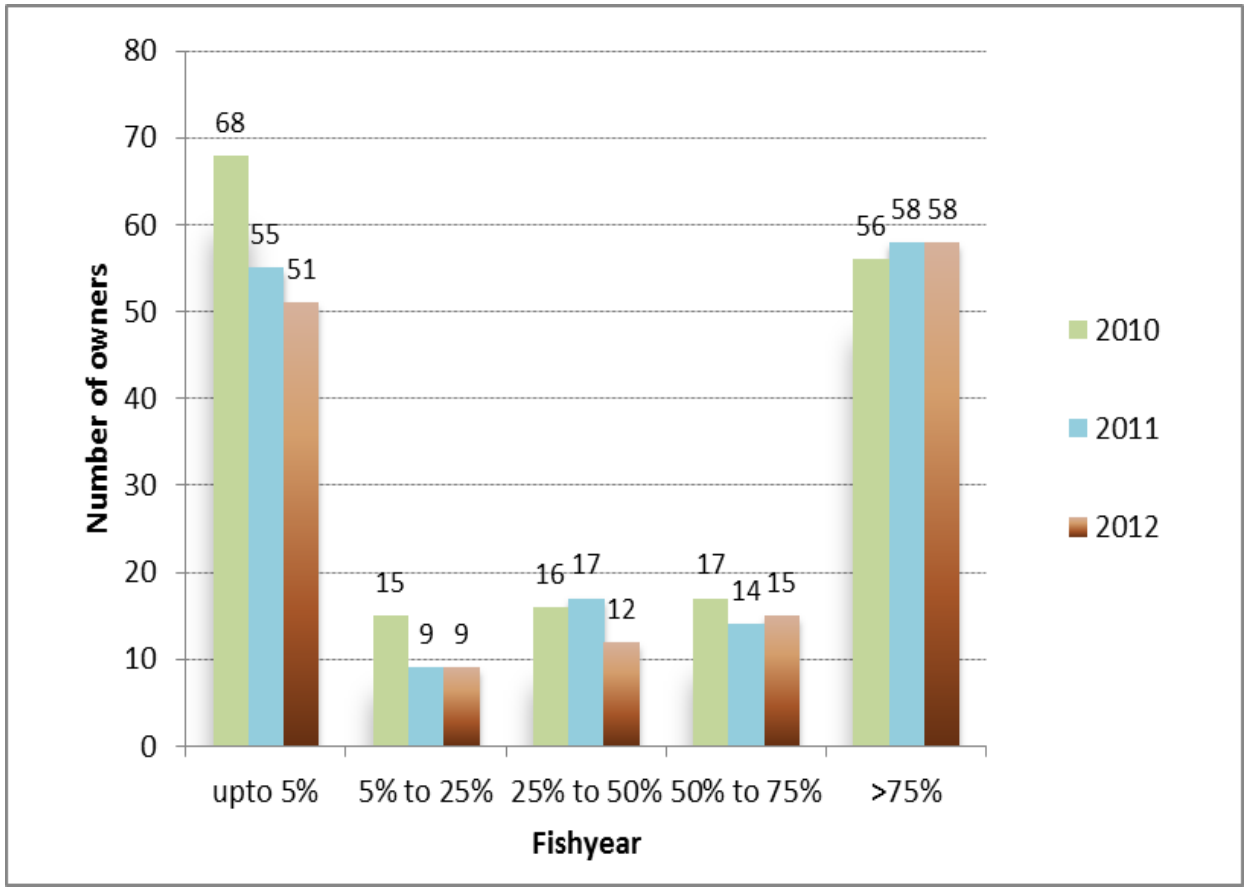


Table 2. Gini coefficients

Fishyear	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

Fig. 66. Economic dependency on the scallop fishery



Changes in 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 (Figure 75).
- 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).

Conclusions

1. LAGC IFQ fleet gross revenue increased by 48% and fleet revenue net of trip and leasing costs increased by 54% in 2012 from 2010 levels.
2. Number of active vessels declined from 154 in 2010 to 129 in 2012 and number of active owners declined from 127 to 107 during the same period.
3. Concentration of effort in fewer owners coupled with the increase in total revenue led to an increase of real revenue per owner by 76% from 2010 to 2012.
4. The number of inactive owners who leased out their allocations increased from 62 (80 including active owners) in 2010 to 72 (86 including active) in 2012.

Conclusions (continued)

5. 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%). However, among active owners, share of allocations of those of the lease-in group increased.
6. Because of the increase in lease prices, the net revenue for owners that lease-in grew slower than compared to net revenue to other owners.
7. Landings are concentrated in vessels landing more than 20,000 lb. of scallop pounds.

Conclusions (continued)

8. Net revenues were highly concentrated among the top earning groups. About 8 to 10 top owners earned about 25% of the total net revenue during 2010-2012 fishing years, while the about 146 owners in 2010 and 132 owners in 2012 earned about 25% of the net revenue.
9. Net revenues among LAGC owners owners are unequally distributed. This is mostly due to the unequal distribution of allocations at the start of the LAGC IFQ program.