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**Rise of the Investor Class in the British Columbia  
Pacific Halibut Fishery**

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# Rise of the Investor Class in the British Columbia Pacific Halibut Fishery

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## Abstract

Individual Transferable Quotas (ITQs) have been promoted as a management approach to address many of the economic and conservation challenges encountered in fisheries. ITQs are expected to improve fishery outcomes based on assumptions about who owns the quota, how ownership is transferred and how ownership incentivizes stewardship. Changes in the ownership profile of the British Columbia Pacific halibut fishery were examined over a 25-year period. This analysis revealed that despite the halibut fishery being a traditionally owner-operator fishery, with owner-operators owning and catching more than 90% of the halibut in 1991, owner-operators have been increasingly marginalized in the fishery, catching 45% of the halibut in 2016 and owning 15% of the quota. The original grantees of quota from 1991 continue to own over half of the quota, and original grantees comprised half of the owner-operators active in the fishery in 2016. However, these original grantees have been steadily becoming a new investor class, non-existent in 1991, alongside new investors that have bought into the fishery as a source of income from leasing. A new dynamic has emerged in the fishery, with the separation of quota ownership from fishing operations. This raises questions about the assumptions underpinning the rationale for ITQs as an efficient market-based mechanism for fishery management and as a means to improve stewardship incentives. Also questionable are the equity, the long-term viability, and the objectives this fishery is serving with this new ownership structure.

**Keywords:** individual transferable quotas (ITQs), fisheries policy, fisheries management

## 1. Introduction

Individual Transferable Quotas (ITQs) are permits allowing the holder of the ITQ to catch or transfer a share of a total allowable catch (TAC). ITQs have been promoted as a solution to numerous long-standing issues in fisheries and credited with a number of improvements where fisheries have become ITQ-managed [1–6]. The rationale for ITQs rests on a number of assumptions. ITQs are assumed to promote the equitable transfer of access rights to the most efficient operators, through a market-based mechanism that compensates existing access holders while providing incentives for the most efficient operators to purchase access rights [7,8]. ITQs are assumed to align economic and conservation objectives by creating a clear and direct link between long-term stock productivity and resource rents, which is then expected to motivate fishers to act as stewards ([5,9–12]). ITQs are assumed to maximize economic rent, reduce over-capitalization, and generally lead to safer and more sustainable fisheries [13,14]. ITQ markets are assumed to meet the conditions necessary for the efficient trading of property rights: (1) no wealth or income effects from the initial allocations of rights, (2) perfect information among all parties, (3) low transaction costs, and (4) a well-functioning capital market [15]. ITQs are generally acknowledged to have negative consequences for the equitable distribution of benefits, employment,

fisheries-related services and infrastructure, and intergenerational access [16–21], although these negative consequences are frequently ignored or downplayed (see [22,23] as examples).

There is growing evidence that challenges the efficacy of free-markets to achieve optimal outcomes [24]. Many of the assumptions underpinning ITQs have already been shown not to hold for the BC halibut fishery [21]. Despite this, ITQs in BC continue to enjoy the support and endorsement of the management agency directly and through commissioned reports [6,25,26] and there is significant resistance to the introduction of measures to ameliorate the negative outcomes of the ITQ system [27].

This paper is part of a larger project to assess the state of the groundfish fisheries in British Columbia, with a focus on the small-boat fleet and impacts of the ITQ management system. In this paper, changes in ownership in the British Columbia Pacific halibut fishery over a 25-year period, from 1991 when individual vessel quotas were initially allocated to 2016, were assessed to answer the questions:

- (1) who owns the quota
  - a. Are the owners of quota the fishing enterprise the operators?
  - b. Is ownership migrating to the most efficient operators?
- (2) Is there an enduring impact of being an initial grantee of quota?

### *1.1. Background on the BC halibut fishery*

Canada's Pacific halibut fishery is one of the highest value fisheries in BC, with \$58.3 million in landed value and \$93 million in wholesale value in 2016 [28]. The halibut fishery, like all fisheries in Canada, are expected to contribute to "economic diversification and the generation of wealth for the benefit of all Canadians, and in particular for coastal communities" [29]. A specific management objective for the halibut fishery is the stability and viability of the existing fleet [30]. The fishery was one of the first Individual Transferable Quota (ITQ) fisheries in Canada and has been frequently cited as an example of successful ITQ fisheries management [6,10,25]. The halibut limited 'L' licence was established in 1979, was transitioned to an individual quota fishery in 1991, and an individual transferable quota fishery in 1993. Quota was allocated to halibut licences in 1991 based on licence length and catch history. Full and unlimited transferability, including permanent transfers, was established in 1999. Each 'L' licence is required to hold a minimum of 0.01149% of the TAC. A maximum of between 1% and 1.25% of the TAC can be held on a licence, depending on its fishing history. These restrictions apply to the individual licence only. In contrast to the Alaska Pacific halibut fishery and many Canadian east coast fisheries, the BC halibut fishery has no fleet separation, owner-operator, or ownership concentration restrictions. As part of government efforts to repatriate fisheries access to First Nations people, the First Nation communal licence 'F' designation was created and the Government of Canada has been purchasing 'L' licences and quota and transferring them to the 'FL' designation since the 1990's, with the first 'FL' licences created in 1997. There were 76 'FL' licences identified in 2018 with combined quota totalling about 16% of the TAC. For more on the history of the BC halibut fishery, see Edwards and Pinkerton [31].

## **2. Methods**

An ownership database for the Pacific halibut fishery in BC was constructed through analysis of three datasets from the management agency, Fisheries and Oceans Canada (DFO), supplemented by the Statistics Canada Inter-Corporate Ownership historical databases, BC Provincial Corporate Registry Services records, BC provincial processor licence lists, the Transport Canada ships registry and online searches including court proceedings, address directories, fisheries advisory process documents and meeting attendance lists. Input was also received from BC fishers active in the halibut fishery, facilitated

through the Canadian Fisheries Research Network – a six-year research network funded by the Natural Sciences and Engineering Research Council of Canada (NSERC) that brought together academia, industry and government to undertake collaborative research on fisheries in Canada.

For this paper, all halibut weights are expressed as ‘dressed head off’ weight, in pounds, as per the management and industry standard. The conversion factor for round to ‘dressed head off’ is 0.75. The conversion factor for tonnes to pounds is 2204.6.

Edwards and Pinkerton [31] provides a detailed overview of the three datasets that were used for the analysis: (1) licence/vessel ownership, (2) quota transactions administrative records, and (3) quota allocations. These datasets include licencing data by vessel, where vessel ownership is a proxy for licence ownership, all temporary and permanent quota transfers, and the quota allocated to each licence.

### *2.1. Assigning Beneficial Ownership*

Parent companies, beneficial owners (those who enjoy the benefits of the quota), original quota grantees and entry period for new entrants was identified through a detailed analysis of individual licences, building on work to assess corporate concentration in the BC salmon and herring fisheries [32] and extending this approach to identify individuals associated with companies. Halibut ‘L’ licences are ‘vessel-based licences’, meaning that the licence is associated with a vessel and not an individual. The management agency does not track ownership of the licence, only ownership of the vessel that the licence is associated with. Vessel ownership was used as a proxy for licence ownership and by extension quota ownership, as vessel ownership is the only source of quota ownership information available and consistent with the practice of the management agency. Vessels can have multiple owners, of which one is listed as the contact owner. The contact owner is treated as the ‘primary’ owner and the remaining owners are considered ‘secondary’ owners. The complete list of primary and secondary owners was only available for the earliest three of the four years considered. Only primary ownership was available for 2016 and so secondary ownership was not evaluated.

As a consequence of how ownership is tracked based on vessel ownership, licence ownership can be obscured by licence leasing, whereby a licence is transferred to the lessee’s vessel. The BC halibut fishery, as all the BC groundfish fisheries, is managed to facilitate temporary leasing of quota, but not of licences. Quota can be transferred between licences on a temporary basis through requests submitted to the management agency, with no impact on recognized ownership or permanent allocation. In contrast, there is no temporary transfer mechanism for licences – all transfers between vessels are considered permanent by the management agency. While licence leasing is a regular occurrence, the incidence of licence leasing is low. With more than 200 halibut licences not fished, the lease value of the halibut licence itself is low. Coupled with complications associated with moving licences onto already licenced vessels and licence length restrictions, few fishing enterprises rely on leased licences.

To enable consideration of ownership over time, names were standardized across the years, addressing differences in punctuation and name abbreviations. Beneficial ownership was determined for halibut licences in four years across a 25-year span: 1991, 1996, 2006 and 2016. These years include the first year of individual (non-transferable) vessel quotas (1991), the last year for which a full dataset was available (2016), and interim years at 10-year intervals. Beneficial ownership was identified through a combination of: purchasing access to individual company annual reports and corporation summaries from the Province of BC through the online BC corporate registry, from which directors and officers of companies and addresses of individuals were identified; comparing addresses for individuals and companies as listed in the public vessel registry and public listings online; and conducting a search for declarations of affiliation in public documents such as DFO integrated fisheries management plans and IPHC meeting minutes. Intra-family transfers were treated as a continuation of ownership. When an

individual was a partner in multiple companies, ownership was assigned to the dominant individual, based on declared contact information, role in the company (e.g., president), history with the licence, disposition of the licence, and assets contributed to the company. When individuals had multiple overlapping and individually held assets, ownership was assigned to a single jointly owned entity. When a company was purchased by a new owner, which is uncommon except among processing companies, this was treated as discontinuous ownership. From an initial list of just under 950 owners, name standardization yielded a list of just under 800 unique owners, from which 625 unique primary beneficial owners across the four years considered were identified.

## *2.2. Categorizing Halibut Ownership*

Halibut quota and licence ownership were categorized according to the following criteria:

- 1) Processors – companies that purchase halibut from fishing enterprises to process and sell in the wholesale or retail market. They may own fishing vessels that are fished by a hired skipper. Licences for which processors have a leasing arrangement or other affiliation are not included in this category – only those licences that are directly owned by processors are classified as processor licences.
- 2) Corporate fishing enterprises – not owner-operated fishing companies that hold halibut licences and in some cases vessels that are fished, but not by the owner of the licence. To be included in this category, a licence owner had to have a halibut licence that was fished in the year, and to meet one of three criteria. The first criterion is that the owner must have a high degree of vessel and/or licence ownership, which a single owner could not reasonably fish personally. This was determined, based on observation and discussion with fishery participants, to be more than 2 halibut ‘L’ licences, or more than 1.25% of the halibut quota, or more than 4 licenced fishing vessels, or more than 9 fishing licences from the following licence types: halibut (L), sablefish (K), rockfish (ZN), trawl (T), shrimp (S), crab (R), prawn (W), herring seine (HS), salmon (A, AT, AG, AS, AR, AC) and herring gillnet (HG), where HG licences were treated as equivalent to one-third of a licence. The second criterion is that the licence is leased to another fishing enterprise in the year, as determined by a review of ownership patterns for individual licences as well as information provided by fishery participants. The third criterion is that the owner does not fish the halibut licence and hires a captain or leases the licence, as determined by information provided by fishery participants.
- 3) First Nation communal – licences that are held communally by a First Nation government or organization (e.g., economic development organization, not-for-profit). Most of the licences within this category are ‘FL’ licences, which are dedicated First Nation communal licences that are permanently held by DFO for use by First Nation governments and organizations. This category also includes regular ‘L’ licences owned by First Nation governments or organizations.
- 4) Investors – companies and individuals that own halibut licences and quota that they do not fish themselves and which they lease to others. This includes former fishing enterprises that no longer fish halibut but have retained their halibut licence and quota to lease to others. The focus for this analysis is on the halibut fishery – whether or not investors fish in fisheries other than halibut was not evaluated.
- 5) Owner-operated fishing enterprises – the remaining individuals and companies are categorized as owner-operated. These are enterprises that own a vessel and licence that the beneficial owner of the licence, or a close family member of the beneficial owner, personally fishes. They may have multiple vessels and/or licences, but only to an extent which can be reasonably operated by a

single owner. This category does not include 'FL' licences. This category may include instances of licences that are not owner-operated but were not able to be identified as such from available information. Furthermore, there are many instances in which processors or investors hold a stake in the vessel and/or licences. This did not disqualify fishing enterprises from being included in the owner-operated category, as information on the nature of the ownership stake was not available and thus could not be evaluated to determine if it warranted disqualification.

The dynamics of ownership changes were illustrated through alluvial diagrams, which were drawn with 'ggAlluvial' [33] in R version 3.5.2 [34].

### *2.3. Original Quota Grantees and New Entrants*

To assess the extent to which the initial allocation of quota continues to be reflected in quota ownership in 2016, the time period during which owners first owned a halibut licence in the 1991 to 2016 period was identified. Owners that owned licences and were the recipients of quota grants during the quota allocation in 1991 were termed 'original grantees'. Owners that were not 'original grantees' and purchased licences and quota after 1991 were termed 'new entrants', and their entry period determined to be one of 1992 to 1996, 1997 to 2006, or 2007 to 2016.

In considering original grantees, the processor category was excluded from the analysis. There were two processors in 1991 that continued to hold ownership in 2016. However, this is not a complete reflection of ownership in the processor category. Since 1991, there has been consolidation of processors in BC with purchases of companies and assets by the largest seafood processing company in BC. These purchases are treated as discontinuous ownership, and as such are not captured within the consideration of original grantees. As well, a number of processors have a secondary ownership role with vessels and licences, including processors that did not directly and solely own licences in 1991 and therefore were not identified as original grantees. The largest processor owner, which owned 11 'L' licences in 2016 but was not identified as a primary licence owner in 1991, did in fact have an ownership interest in at least three vessels with 'L' licences. This interest could have been outright ownership of the 'L' licence, ownership of another licence on that vessel, or a financing arrangement with the vessel owner. The nature of the ownership stake is not required to be registered with the management agency and is treated as confidential information by the processor, and as such could not be evaluated further with the information available.

### *2.4. Valuing Quota*

The value of quota held by the different categories of owners was calculated, in terms of both annual lease value and purchase price. Lease and purchase prices for 1998 to 2000, 2002, and 2004 to 2016 were taken from values reported in annual valuation reports commissioned by DFO ([35–38]). Prices for 1991 to 1997, 2001 and 2003 were compiled and supplementations to the valuation reports from industry trade publications (e.g., Westcoast Fisherman magazine) and input from industry informants. Prices, including those from valuation reports, are based on a limited sample and are an estimated average price and not a true average, as there is no comprehensive tracking or reporting of quota lease and purchase prices. All values are in constant dollars, having been corrected for inflation to the 2016 equivalent.

## **3. Quota Ownership and the Emergence of an Investor Class**

The halibut fishery was traditionally an owner-operator fishery, with a minor presence of processors and larger fishing companies that accounted for less than 10% of licences and catch. The fishery transitioned from a limited licence fishery to an individual quota fishery in 1991. For the first two years, the quota was not transferable. In 1991, owner-operated fishing enterprises owned and caught just over

90% of the halibut quota (Fig. 1). With transferability in 1993, a new category emerged – that of the investor that owns a licence and quota, but does not fish the licence and leases out the quota to others. Investors owned 43% of the halibut quota in both 2006 and 2016, up from 0% in 1991 and 23% in 1996. The processor, First Nation communal, investor, and not owner-operated fishing enterprise all increased their ownership of quota from 1991 to 2016. For owner-operators, the pattern over time has been a continuous diminishment. Owner-operators still contributed nearly half of the catch in 2016 (45%), but their ownership of quota fell from 90% in 1991 to 15% in 2016. Corporate fishing enterprises accounted for just over one quarter of the catch in 2016, up from 4% in 1991, indicative of the concentration of ownership and corporatization of the fleet since the introduction of ITQs.

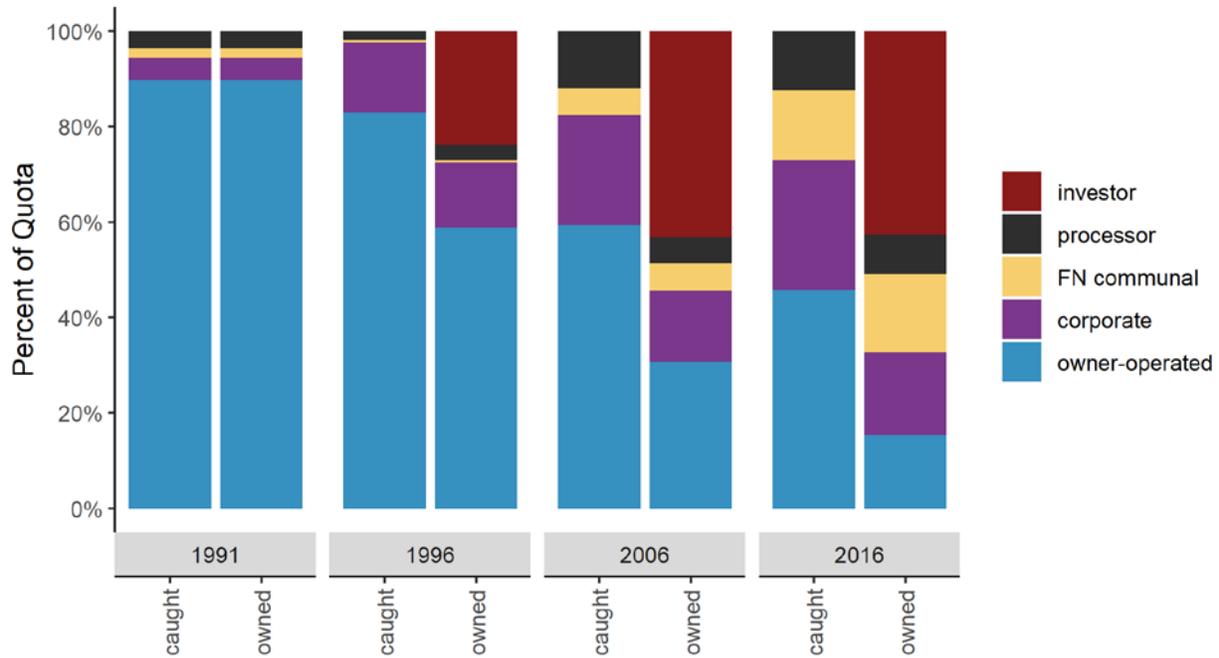


Figure 1. The percent of halibut quota caught and owned by each of the five categories in each of the four years considered.

An examination of the flow of licences between the ownership categories provides insights into how the ownership profile of the fishery has been changing over time (Fig. 2). There were a set number of licences (435) established at the time of licence limitation in 1979. The owner-operator licences, which comprised the vast majority of licences in 1991, have been the primary source for licences in the categories that grew – notably the not-owner-operated fishing enterprises, investor and processor categories. During the period of highest growth for the First Nation communal licences, between 2006 and 2016, the majority of licences came from the investor category. The flow of licences has been dynamic, with movement of licences between all categories, but ownership overall has been stable with the majority of licences remaining within their ownership category from one time period to the next. Changes between categories arise for one of two reasons: (1) owners continuing to own the licence but changing categories, such as owner-operators becoming investors; and, (2) owners selling their licences to new owners in different categories, such as the sale of owner-operated or investor licences into the First Nation communal category.

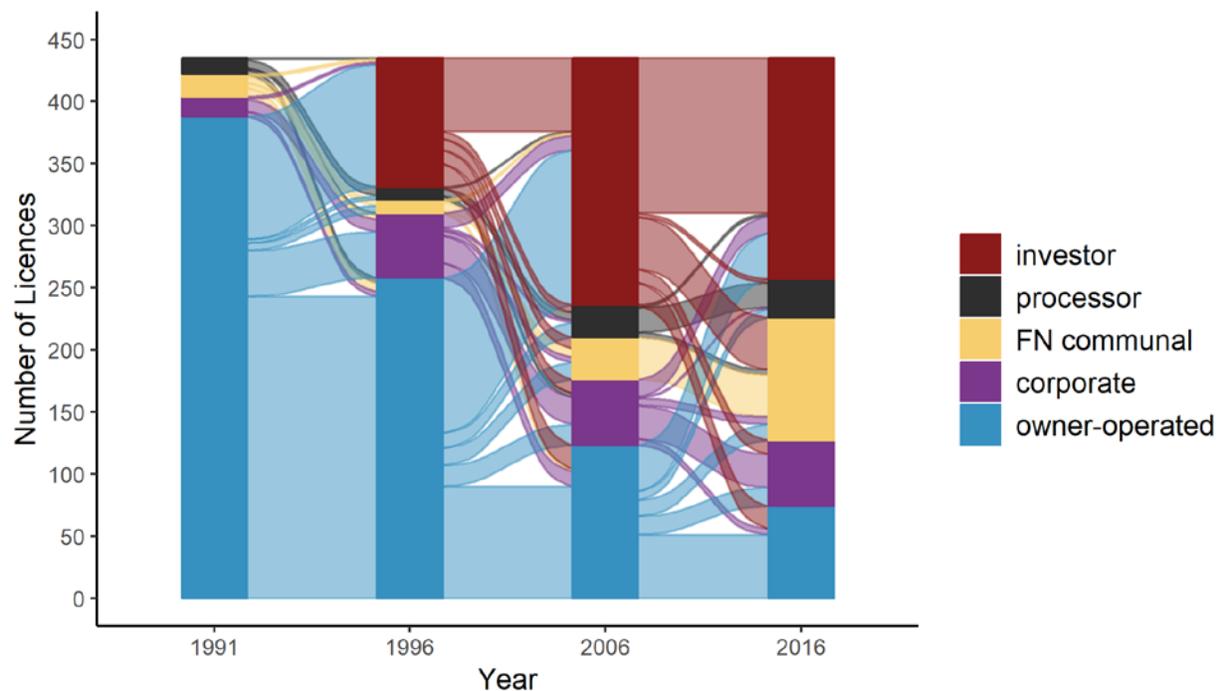


Figure 2. Mapping changes in ownership category in the halibut fishery following licences.

An examination of the flow between the ownership categories provides further insights on the drivers of ownership change within the fishery (Fig. 3). The proportion of new entrants that have been entering directly into the investor category has been increasing over time. The large majority of new entrants after 1996 entered the investor and First Nation communal categories. The proportion of new entrants entering into the owner-operator category has been decreasing, accounting for 64% of the 78 new entrants in the period between 1991 and 1996 and 11% of the 62 new entrants between 2006 and 2016. The initial exits from the fishery were primarily from the owner-operator category, with the initial First Nation communal owners also exiting within the first ten years. Investors have also been exiting, particularly in the period after 2006, coinciding with the buyback of licences by DFO to transfer to First Nation communal owners. Over this period, the TAC has fallen by almost half while quota purchase prices have increased by more than double, to \$95 per pound in 2016 and a high of \$120 per in 2017 – a combination of factors that has provided sufficient incentive for some investors to forego an annual revenue stream for a one-time buyout. The investor category has remained stable between 2006 and 2016 as a proportion of total owners (54%), as the total number of owners has decreased by 14% over that time and as the investor category has been replenished with both new entrants and owner-operators shifting to the investor category.

The ownership flows reveal consolidation in the number of owners and the progressive diminishment of the owner-operator category. Owner-operators have been leaving the fishery in greater numbers than new owner-operator entrants have been entering. Owner-operators primarily exit by first becoming investors for a period of time before leaving the fishery, although many have chosen not to leave at all, staying in the investor category. Ownership is not associated with efficient operators, as quota ownership and fishing operations have diverged, with the majority of quota leased out to be fished either by owner-operators supplementing their own holdings, by vessel owners leasing a licence and quota, or by skippers hired to fish a vessel and quota.

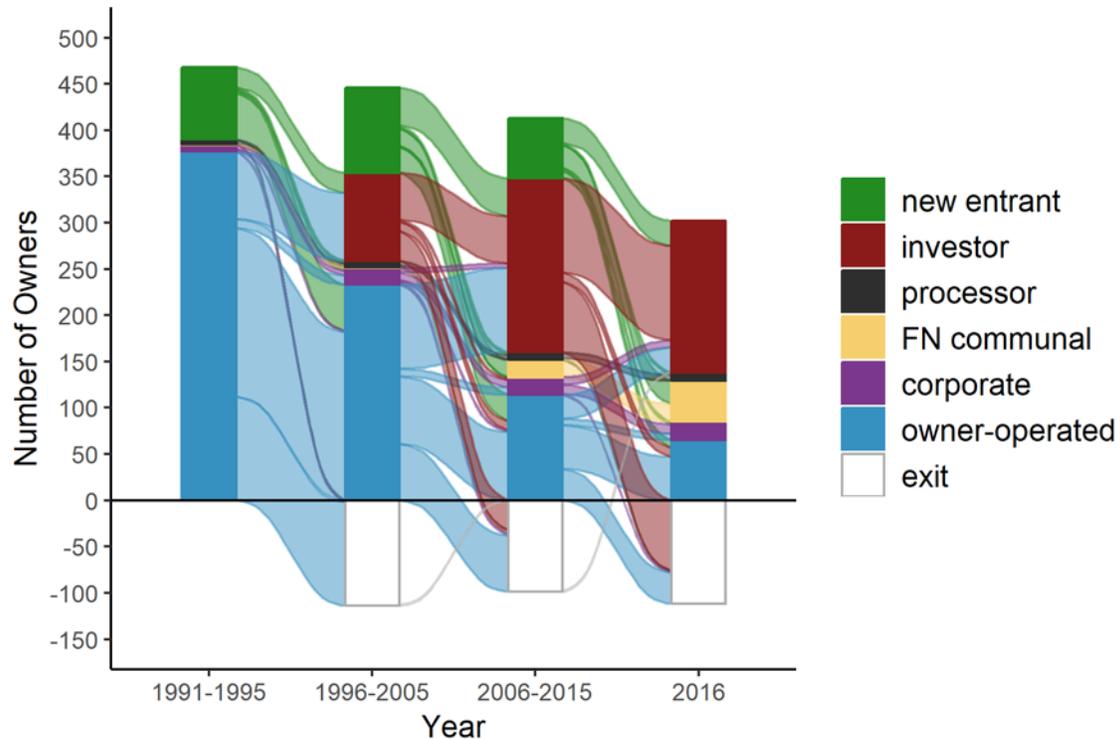


Figure 3. Mapping changes in ownership category in the halibut fishery. The ‘new entrant’ category are those owners who entered the fishery in the years following the first year of the time period specified, the ‘exit’ category are those that exited the fishery in the time period preceding the years specified.

Similar patterns of ownership change were observed in the Tasmanian rock lobster fishery [39] for which a growing investor class was noted. However, the Tasmanian fishery has a quota ownership cap that was posited to limit concentration and maintain diverse ownership. The BC Pacific halibut fishery, as with other fisheries in BC, has no ownership caps. Concentration restrictions are at the licence level and do not extend to ownership, with owners permitted to own an unlimited number of licences.

While the emerging investor class could be interpreted as a positive outcome in that it provides a mechanism for those ‘forced out’ of the fishery to continue to generate income [22], the negative impacts for the fishery and fishing dependent communities should not be overlooked.

The investor class:

- 1) Does not add value to the fishery. They do not reinvest in the fishery except in terms of licences and quota. They do not support infrastructure, vessels, or innovation and advancement of technology and processes in the fishery, thus negatively impacting the long-term development of the fishery. They do not invest in depreciable assets such as vessels, which is considered a positive when a fleet is over-capitalized and when considering efficiency to extract rent. However, this lack of investment is not a sustainable state over the long-term when re-investment is needed to replace depreciated assets.
- 2) Increases the indebtedness of the fleet. While increased indebtedness has been characterized as a positive for generating financial capital [40], it can only be considered such to the extent that the fishery is able to support that indebtedness. The current financial situation for new entrants in the halibut fishery indicates that lease prices are not sustainable and the level of income generation

for new entrants does not offer a path to ownership. The stagnation in ownership, particularly among owner-operators and original grantees, are warning signs that the rates of return from the fishery are not sustainable and cannot support investments in the fishery from regular financing channels without significant risk of default. The purchases by the Government of Canada are secure, having been financed by public funds, but public funding as the source of increased capital cannot reasonably be considered an economic positive.

- 3) Negatively impacts the equitable distribution of benefits. Equity is about more than the original grantees of quota. It also includes those active in the fishery who were not granted quota, namely crew and hired skippers, and those who enter the fishery after the initial granting of quota. In both of these cases, the halibut fishery has fundamentally failed to deliver a positive outcome.

#### 4. Long-term Wealth Effects of Initial Allocation

To evaluate the impact of the initial quota grants, the quota ownership and catch of the original grantees was considered by their ownership category (Fig. 4). Initial grantees from the 1991 licencing year continued to have a prominent role in halibut licence and quota ownership in 2016. Of the 302 unique owners of halibut licences and quota in 2016, 154 were original grantees from 1991. These original grantees collectively owned 53% of the halibut quota in 2016. This quota had a lease value of about \$27 million in 2016 and an estimated purchase price at 2016 prices of \$310 million.

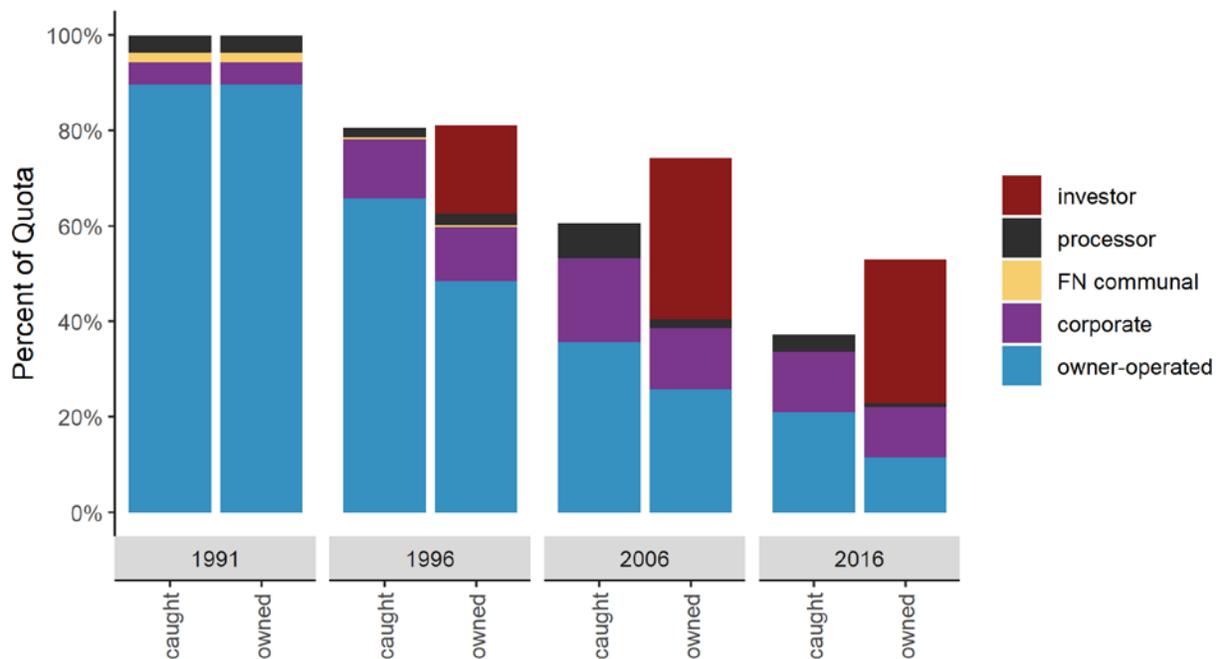


Figure 4. The percent of halibut quota caught and owned by the original grantees – licence holders that were granted quota in 1991 – in each of the five categories of ownership.

The prominence of original grantees in the current fishery would not be evident from a cursory review of the data. Based on an initial assessment, before beneficial ownership was assigned, original grantees owned 35% of the halibut quota in 2016, compared to 53% once beneficial ownership was assigned. Similarly, of the 154 owners identified as original grantees still in the fishery in 2016, 64 had different names, having either incorporated (38), dissolved their company (15), transferred ownership between companies (5), or transferred ownership between family members (6).

Aside from a large exodus in the 1992 to 1995 period, in which about a third of owner-operators exited the fishery outright, the majority of original grantee owner-operators have transitioned to an investor role in the fishery after they stop fishing halibut. These former owner-operators comprise the majority of investors. Of the 164 investors in the halibut fishery in 2016, 107 were original grantees, and these original grantees owned 30% of the total halibut quota. Original grantees that continue to fish hold an additional 11% of quota and not owner-operated fishing enterprises hold 11%. These quota holdings are both from originally granted quota as well as purchases of additional quota. The 148 owner-operated fishing enterprises granted quota in 1991 that remained in the fishery in 2016 were collectively granted 41% of the halibut quota in 1991 and in 2016 owned 49% of the halibut quota. At the individual level, 47 of the 148 original owner-operator grantees remaining in the fishery had less quota in 2016 than in 1991, 61 original grantees had increased their quota holdings, and the remaining 40 had quota holdings that were unchanged (Fig. 5).

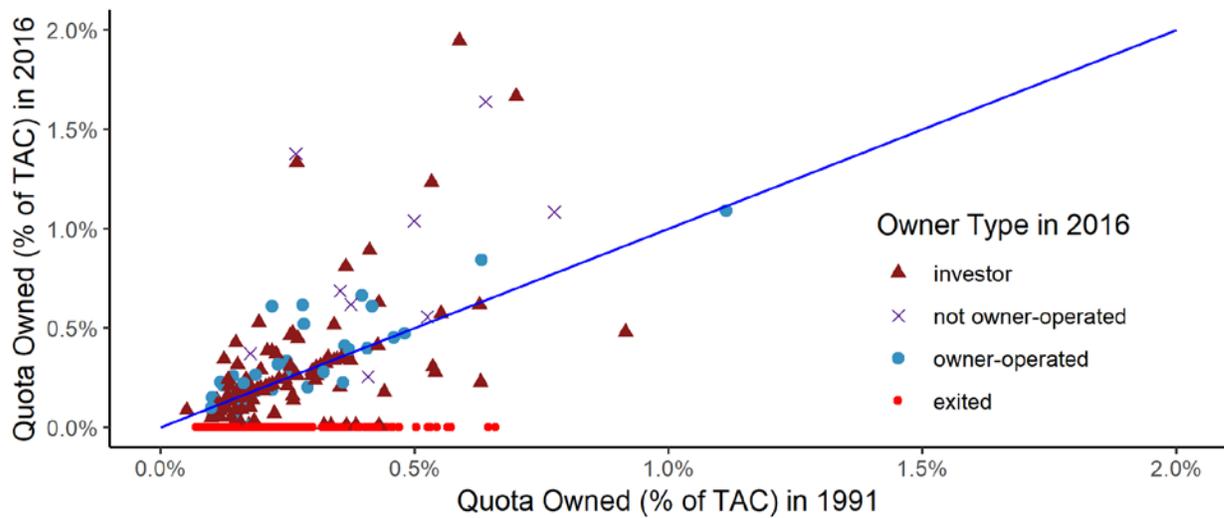


Figure 5. The percent of quota owned in 1991 and in 2016 by the individual owner-operator original grantees, by the owner type category in 2016. Those along the blue line have identical quota holdings in both years. Those below the blue line have reduced their holdings and those above have increased their holdings.

Most investors that have remained in the fishery have significant quota holdings. Over 80% of investors held quota with a lease value of at least \$50,000 in 2016, as calculated using the reported average lease price (Fig. 6).

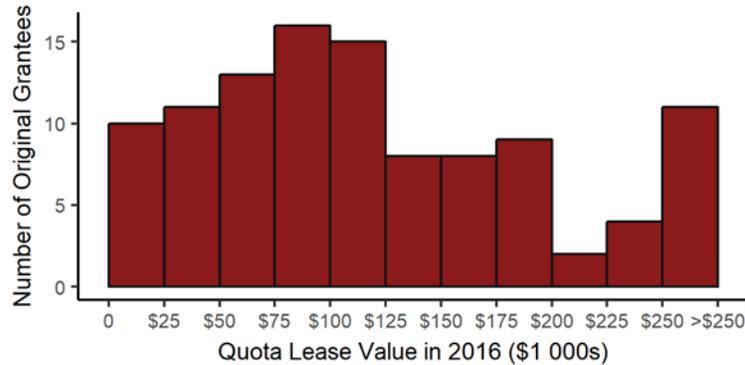


Figure 6. The number of original grantees by the 2016 lease value of the quota that they own, in thousands in dollars.

Nowhere is the significance of being an original grantee more evident than in the owner-operator category. Of the 65 owner-operators active in the halibut fishery in 2016, half (33) were original entrants. Of the 15% of quota owned by owner-operators, three quarters, 11% of the total halibut TAC, was owned by original grantees. These owners caught 23% of the halibut catch. In contrast, the owner-operators that entered after 1991 caught 24% of the halibut catch and owned just over 3% of the halibut quota. Of particular note is that the 18 owner-operators that entered the fishery since 2001 collectively caught 16% of the halibut and owned less than 1% of the halibut quota.

The impact of the initial grantees extends into the representation of the fishery with the management agency. DFO consults on a regular basis with advisory committees, including the Halibut Advisory Committee (HAB). These advisory committees include both elected and appointment members and are intended to represent the full cross section of stakeholders and advise the department on changes to the annual management plan for the fishery as well as long term policy directions [41]. Commercial fishery representatives are elected with each halibut licence equalling one vote and 20 votes needed to become a licence holder representative. In 2016 there were 12 licence holder representatives elected by halibut licence owners. Of these 12 members, all were licence holders; 5 were owner-operators and the remaining 7 were investors; 2 of the owner-operators entered the fishery after 1991, and the remaining 10 representatives were original grantees.

## 5. Conclusion

The examination of the change in ownership from 1991 to 2016 in the BC Pacific halibut fishery has revealed that:

- 1) Owner-operators are increasingly marginalized in a fishery that began as an owner-operator fishery. The diminished role of owner-operators is evident in both catch and ownership, although it is ownership that has seen the greatest change, falling from 90% in 1991 to 15% in 2016. In turn, processor and fishing enterprises that are not owner-operated are increasing, in both catch and ownership. The FN communal category has also increased, in response to Government of Canada investments of tens of millions of dollars into the halibut fishery for the purchase of licences and quota to repatriate access to First Nations. However, the biggest impact on owner-operator ownership, by far, has been the rise of the investor class, which was non-existent in 1991 and owned 43% of the halibut quota in 2016.
- 2) Permanent access rights are not migrating to more efficient operators, but are instead being kept by investors to generate income without having to participate in the fishery. Furthermore, there is clear evidence of a wealth effect that benefits the original grantees, limiting opportunities for new entrants to gain a foothold in the fishery regardless of their relative efficiency.

- 3) Ownership is increasingly disconnected from fishing operators, calling into question assertions that ITQs improve stewardship. The majority of operators in the fishery in 2016 have minimal ownership in the fishery and are under significant pressures to maximize catch at lowest cost due to high lease prices, with implications for safety and harvesting practices. Those operators that do have significant quota holdings, primarily original grantees that continue to fish, are insulated by the value of their quota holdings, limiting incentives for efficiency and innovation in the fishery.

Based on this analysis, it is clear that for the BC Pacific halibut fishery, ITQs have not been an effective mechanism for efficient operators to enter the fishery and take on an ownership stake. While there is evidence that conservation and stewardship gains are correlated with the introduction of ITQs in the halibut fishery [25,42], a causal relationship should not be assumed. With the majority of fishing enterprise operators disconnected from meaningful quota ownership, conservation gains cannot be reasonably attributed to the introduction of private property rights. Rather, the introduction of an extensive monitoring and enforcement system that accompanied the introduction of ITQs is a more likely explanation. The initial quota allocation process was a boon to the original grantees at the expense of new owner-operators entering the fishery. The absence of owner-operator restrictions that would mandate that quota be sold to active owner-operators when an owner-operator stops fishing has allowed original grantee investors and new investors to receive the majority of the value from the fishery. As original grantees, that comprised half of the owner-operators active in the fishery in 2016, continue to exit, ownership by owner-operators can be expected to further decline. At the same time, investors do not contribute to the development of the fishery – they do not invest in boats or equipment for the fishery, they do not add to coastal infrastructure, and they do not support innovation of new technologies and techniques. Investors represent the flight of wealth out of the fishery and out of fishery-dependent coastal communities, which raises questions about whether ITQs without ownership restrictions are appropriate for a fishery that is intended to support a strong fishing fleet and adjacent coastal communities.

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