Data Sources: Price, Investment and Leasing Data for the British Columbia ITQ Halibut Fishery

The data that is presented here was aggregated and consolidated to inform the research presented in the dissertation (under review) Edwards, D., Addressing Questions on the Social and Economic Outcomes of an Individual Transferable Quota Fishery, A dissertation to be submitted in partial fulfillment of the requirements for the degree of doctor of philosophy, University of British Columbia and in the paper Edwards, D., & Pinkerton, E. (2019), The Hidden Role of Processors in an Individual Transferable Quota Fishery. Ecology and Society, In Press. This document describes the sources and methodology used for these data inputs. The source data is provided in accompanying files.

The data sources presented here are all publicly available, compiled from multiple sources including published reports, online datasets, a government pay for access dataset (BC Online corporate registry), and government data requests (through the federal Access to Information process).

Units of measurement
The management and industry standard for pacific halibut is to report weight as ‘dressed head off’. This is true for both the International Pacific Halibut Commission (IPHC) and DFO when reporting TAC, catch and quota. In British Columbia (BC), the standard for all other groundfish is to report based on round weight, even where the catch is typically delivered as a dressed product. All halibut weights throughout are reported as ‘dressed head off’ weight. The conversion factor for round to ‘dressed head off’ is 0.75. The industry standard in the British Columbia halibut fishery is to express weights in pounds. The conversion factor for tonnes to pounds is 2204.6.

Consumer price index
Consumer Price Index data for Canada was retrieved from Statistics Canada, Table 18-10-0005-01, Consumer Price Index, annual average, not seasonally adjusted, ‘all-items’. The original base year was 2002 and I adjusted it for a 2016 base year. All price and value multi-year trend data was adjusted for inflation using the consumer price index multiplier to present data in 2016 constant Canadian dollars.

Halibut total allowable catch, landed value and landed price
Halibut total allowable catch (TAC) was retrieved from IPHC annual reports (1981 through 1990) and DFO integrated fisheries management plans (1991 through 2017).

Landed weight and landed value for 1981 to 1995 were retrieved from DFO commercial catch statistics online summary ‘commercial halibut landings in BC, landed weight by species and value 1951-1995’. Landed weight and landed value for 1996 through 2017 were retrieved from the British Columbia Seafood Year in Review reports published annually by the Province of British Columbia. Landed weight in the Seafood Year in Review is reported as round tonnes. Weights were converted to dressed head-off based on the official DFO conversion factor (0.75) and to pounds based on the standard factor (2204.6).
The average landed price was calculated as the total value divided by the total weight.

**Quota lease and purchase prices**

There is no comprehensive tracking or reporting of quota purchase and lease prices in BC by government at either the federal or provincial level. Halibut quota purchase and lease prices were compiled for 1998 to 2000, 2002, and 2004 to 2016 from the values reported in annual valuation reports commissioned by DFO (Castlemain, 2018; Nelson, 2000, 2005, 2007), which were estimates based on a limited number of interviews. Purchase and lease prices for 1991 to 1997, 2001 and 2003, and supplementations for the years reported in the valuation reports (e.g., high and low values) were compiled from industry trade publications (e.g., Westcoast Fisherman magazine). Additional supplementary sources included advertised prices from licence brokerages and from fish landings slips that fishery participants have made available, to verify average prices and address gaps in the data for high-end lease prices. All values were reported in both current and constant dollars, having been corrected for inflation to the 2016 equivalent.

The halibut after-lease price is the price received by the fishermen, as the difference between the landed price and the lease price. This price was calculated where landed and lease price data were available. While the individual quota fishery in BC halibut was first implemented in 1991, leasing of quota only began in 1993, with the introduction of limited transferability, accounting for the different time periods for which data is available (1991 for IQ fishery variables (e.g., quota ownership), 1993 for ITQ fishery variables (e.g., lease prices)).

Licence fees are paid to the management agency by the quota owner and collected from the lessee with the lease fee. Licence fees averaged $0.11 per lb in 1991, $0.07 per lb in 1993 to 1995, and then between $0.15 and $0.19 per lb in 1996 to 2000, when cost recovery of validation costs were included in the fee collected by DFO based on a rate per tonne allocated to the licence. Since 2000, licence fees have been between $0.08 and $0.12 per lb, based on the formula that has remained unchanged over the period up to and including 2018: $310 per tonne less 40% up to a maximum reduction of $1000, as determined from review of DFO data and Integrated Fisheries Management Plans (DFO, 1998, 2001, 2018). For the period 2001 to 2006, DFO facilitated the collection of validation (monitoring) fees from quota holders by the Pacific Halibut Management Association (PHMA) of BC, an industry association (*Burnell v. Canada (Fisheries and Oceans)*, 2013). DFO did not play a role in validation fee collection after 2006 and the PHMA subsequently discontinued their own role in the collection of validation fees. Validation costs are paid directly by the fishing enterprise delivering fish. Quota lease prices as reported here do not include management fees nor validation fees. The management fee averages $0.10 per pound and management plus validation fees for the 1996 to 2006 period averaged $0.17 per pound. The primary source for the price data (annual valuation reports) stated that they subtracted this fee from the lease fees reported. The practice of subtracting this fee, where it was included with the lease fee, was followed for lease data from supplementary sources.

**Non-Directed Catch and TAC**

The halibut fishery is a multi-species fishery that catches rockfish, lingcod, dogfish, and sablefish alongside halibut. Aggregated catch in the halibut fishery for non-directed species is available (DFO, 2017), from which the percent of TAC utilization can be calculated (data file: uncaught non-directed).
**Halibut fleet characteristics**

Catch data is compiled by DFO but is not available at the individual level. To assess licence catch concentration in the absence of individual catch data from DFO for the halibut fishery, I used a proxy for catch – temporary and permanent quota holdings on the vessel at the end of the year. Once beneficial ownership, active fishing licences (based on halibut quota holdings as a proxy for catch) and ownership categories (owner-operator, First Nation communal, corporate fishing enterprise, processors, investors) were identified within the ownership database (datafiles: quota ownership and leasing; multi-licence list), and cross-referenced with vessel characteristics (datafile: vessel characteristics), a number of summary statistics were generated, including the number of active owners by ownership category, quota ownership by ownership category, multi-licence ownership within the halibut fleet and fleet vessel characteristics (datafile: fleet characteristics summary data).

**References**

*Burnell v. Canada (Fisheries and Oceans).* (BCSC 2013).

Castlemain. (2018). *Analysis of commercial fishing licence, quota, and vessel values (as at December 31, 2017).* Report prepared for Fisheries and Oceans Canada, Pacific Region.


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