



  
Castlemain

## Analysis of commercial fishing licence, quota, and vessel values

Prepared for Fisheries and Oceans  
Canada, Pacific region

*As of December 31, 2020*



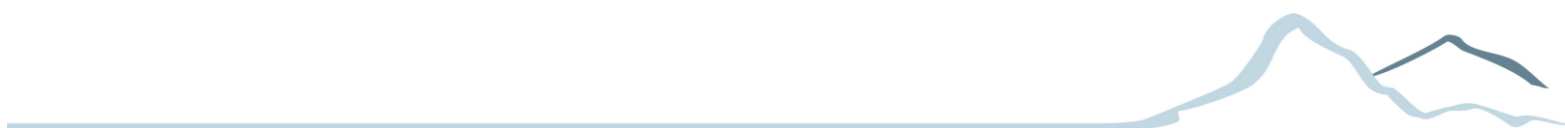
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Analysis of commercial fishing licence, quota, and vessel values : prepared for Fisheries  
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# Introduction

On an annual basis, with few exceptions over the last three decades, the Aboriginal Programs Division at Fisheries and Oceans Canada (DFO) has undertaken a licence and quota valuation study to determine valuations for commercial fishing licences and quota operating in commercial fisheries in the Pacific region.

The information gathered by DFO over the past 27 years of studies has been used for a wide variety of purposes including:

- Informing licence retirement and reallocation programs
- Estimating potential treaty impacts on the commercial fishery
- Gauging and analyzing the economic health of the pacific fishing industry
- Developing policies around First Nations participation in the fishery and licence redistribution
- Estimating the impacts of policy decisions on the pacific fishery

This year's report contains an assessment of commercial fishing licence and quota values for the period of January 1, 2020 to December 31, 2020.

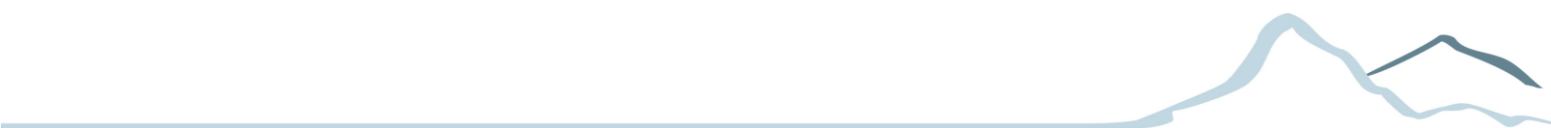
Where possible, the valuations in this report are based on individual market transactions. Where no or few market transactions could be uncovered, anecdotal information may have been used, and, where no information could be uncovered, values from the 2019 study were used. In short, this report represents the contractor's best effort to summarize imprecise data into an existing time series of values.

Each valuation has been assigned a level of confidence for the valuation, ranging from low to high. This is an attempt to qualify the contractor's professional opinion with regards to the accuracy of the valuation and is based on the number of individual transactions that were recorded, the quality of the information, and anecdotal information.

All valuations in this report are presented as nominal values, they have not been adjusted for inflation.

## COVID-19

The ongoing COVID-19 pandemic has led to unprecedented impacts on the fishing industry and has also impacted the value of commercial fishing licences and quota, although it is difficult to predict whether these impacts will be short-term or long-term. In general, the pandemic has created structural uncertainties that are likely to persist until both domestic and international vaccination programs are complete.

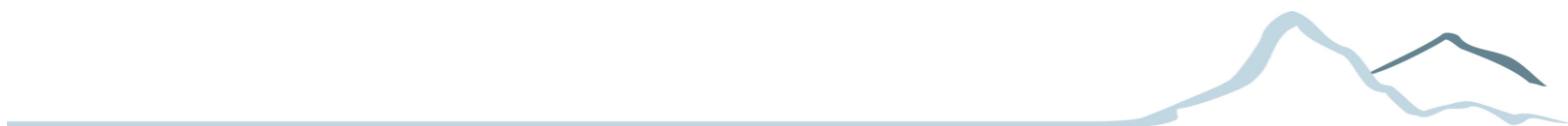


The primary channels through which the pandemic has impacted commercial fisheries are the restrictions on access to international markets (particularly Asia) and shifts in demand from the domestic food service industry. The former has impacted commercial fisheries such as sea cucumbers, crabs, and prawns, which have primarily been export-focused products. Other fisheries that have historically depended on international markets, such as geoduck, have experienced slight declines in value but retain strong fundamentals.

Closures in the domestic food service (restaurant) industry hit some fisheries very hard, including sablefish and halibut. In the case of halibut, new direct-to-consumer channels have been able to help offset some of this decline. Sablefish, on the other hand, is less approachable for home cooks and did not see a similar shift. The decline in overall demand for sablefish has therefore been more pronounced.

The pandemic has also exacerbated existing uncertainties in certain fisheries, most notably salmon, by creating additional supply chain and logistic issues. Salmon fishers have expressed uncertainty about the future viability of the fishery due to low returns, low-to-no openings, and events such as the 2019 Big Bar landslide, the full impact of which will not be known for years. These overarching concerns about Pacific fisheries have continued in tandem with new concerns arising out of the pandemic.

Although some fisheries were impacted most severely at the start of the pandemic as supply chains and markets adapted to new restrictions, uncertainty persists due to successive waves of the pandemic. Despite an ongoing vaccination campaign, it is unlikely that enough of the population both domestically and internationally will be vaccinated in 2021 for these fisheries to recover significantly, and it is more likely that recovery will stretch into late 2022 and early 2023, if not later. Some industry informants expressed some optimism for a partial rebound in the industry in 2021, however the general sentiment was pessimistic.



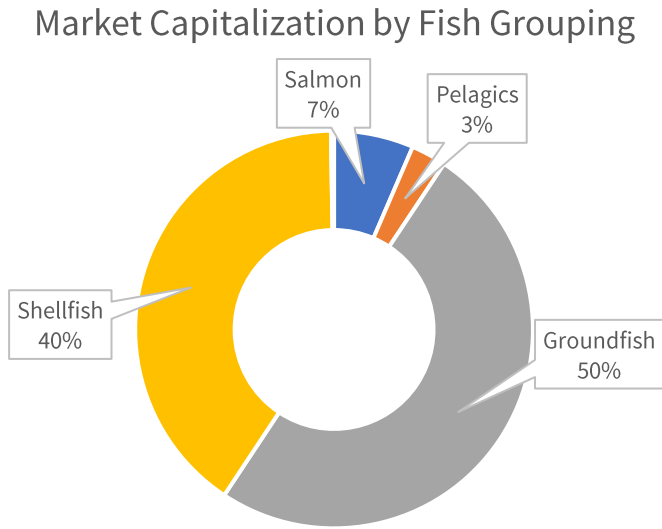
# Summary: Year ending December 31, 2020

The following table summarizes the market capitalization of pacific commercial (not including communal commercial) fishing licences and quota as of December 31, 2020. The total value of licences and quota for the year ending December 31, 2019 was about \$2.5 billion, compared with a valuation of \$2.275 billion in 2018.

Fish Grouping	Fishery	Licence Description	No. of Licences	Average Licence Value	Aggregate Licence Value	Aggregate Quota Value	Average Quota Value (\$/Lb)	Total Licence and Quota Value
Salmon	Salmon seine	AS	209	\$323,618	\$67,635,290	n/a	n/a	\$67,636,070
	Salmon gillnet	AG	800	\$47,016	\$37,612,915	n/a	n/a	\$37,612,915
	Salmon troll	AT	286	\$140,906	\$40,299,032	n/a	n/a	\$40,299,032
Pelagics	Herring – roe herring seine	HS	241	\$89,571	\$21,586,500	n/a	n/a	\$21,586,500
	Herring – roe herring gillnet	HG	979	\$32,273	\$31,595,591	n/a	n/a	\$31,595,591
	Herring – spawn on kelp	J	34	n/a	n/a	n/a	n/a	n/a
	Tuna	USA 68	45	\$250,000	\$11,250,000	n/a	n/a	\$11,250,000
	Sardine	ZS	25	n/a	n/a	n/a	n/a	n/a
Groundfish	Halibut	L	341	\$32,200	\$10,980,200	481,388,750	\$95.00	\$492,368,950
	Sablefish	K	41	\$400,000	\$16,400,000	335,323,176	\$84.00	\$351,723,176
	Groundfish trawl	T	135	\$41,000	\$5,535,000	198,749,531	\$1.70 (uncut) \$0.20 (hake)	\$204,284,531
	Rockfish inside	ZN	52	\$37,500	\$1,950,000	n/a	n/a	\$1,950,000
	Rockfish outside	ZN	158	\$252,000	\$39,816,000	n/a	n/a	\$39,816,000
	Lingcod hook and line	n/a	n/a	n/a	n/a	30,899,954	\$12.00	\$30,899,954
	Dogfish hook and line	n/a	n/a	n/a	n/a	2,308,678	\$0.11	\$2,308,678
Shellfish	Prawn	W	185	\$810,000	\$149,850,000	n/a	n/a	\$149,850,000
	Crab	R	187	\$1,100,000	\$205,700,000	n/a	n/a	\$205,700,000
	Shrimp	S	208	\$25,000	\$5,200,000	n/a	n/a	\$5,200,000
	Geoduck	G	50	250,000	\$12,500,000	\$387,500,000	\$775,000/blk	\$400,000,000
	Sea cucumber	ZD	84	\$1,400,000	\$117,600,000	n/a	n/a	\$117,600,000
	Red sea urchin	ZC	80	\$325,000	\$26,000,000	n/a	n/a	\$26,000,000
	Green sea urchin	ZA	48	\$80,000	\$3,840,000	n/a	n/a	\$3,840,000
	Euphausiid	ZF	16	\$40,000	\$640,000	n/a	n/a	\$640,000
Schedule II	Schedule II	C	307	\$18,490	\$5,676,430	n/a	n/a	\$5,676,430
<b>Total</b>				\$81,667,889	\$1,436,170,089	n/a	n/a	\$2,247,837,978

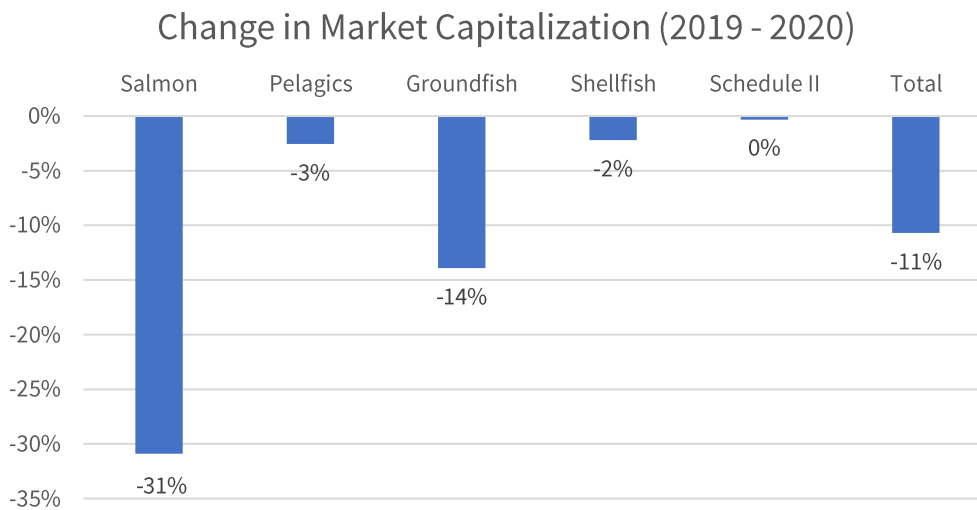


## 2020 Market value by fishery grouping



## Percentage change in market value by fishery grouping, 2020 vs. 2019

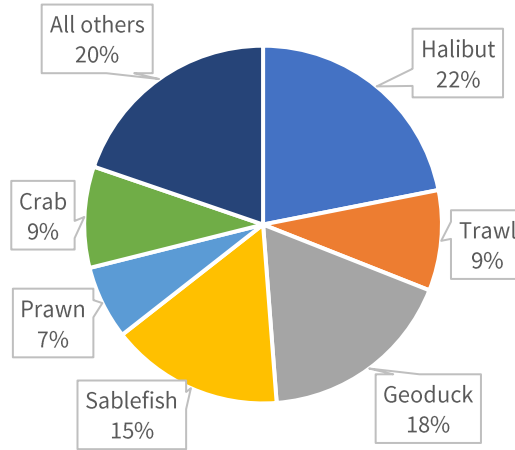
Compared to 2019, total market capitalization decreased by 11% in 2020.



## Top six fisheries relative to overall licence and quota values

As shown in the chart below, the six fisheries with the largest aggregate licence and quota valuations account for 80% of total value, while the remaining 18 fisheries make up 20%.

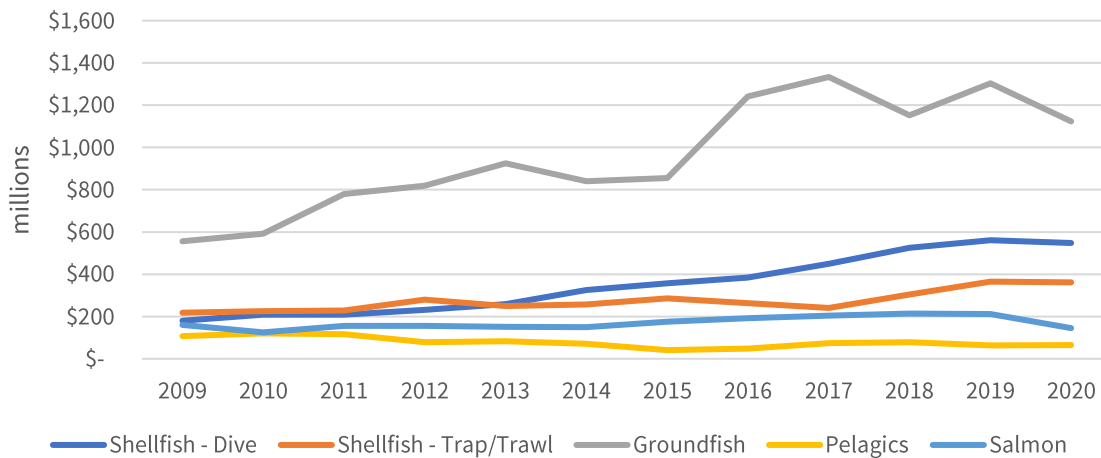
Share of Aggregate Licence and Quota Values by Top Six Fisheries



## Aggregate licence and quota value by major fishery groupings

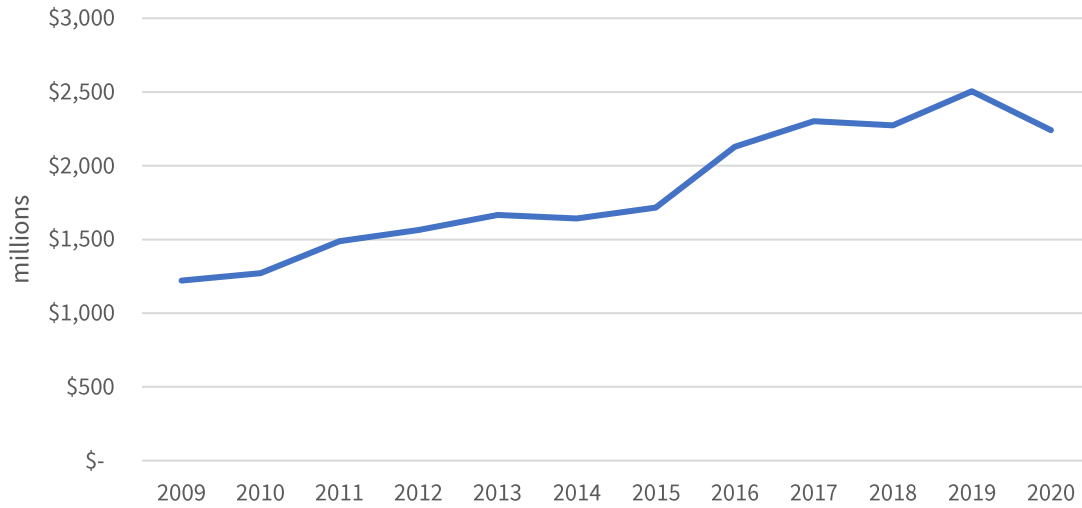
Aggregate value over the past 11 years is shown by fishery grouping and for all fisheries in the charts below.

Aggregate Licence and Quota Value by Major Fishery Groupings





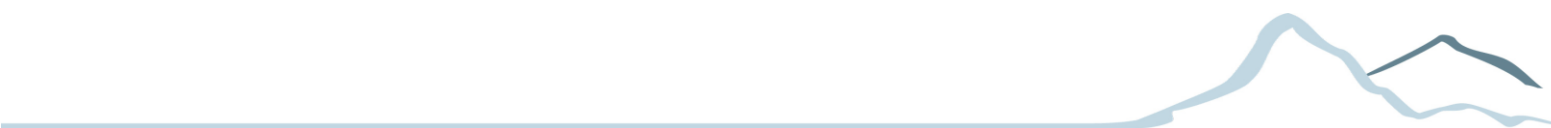
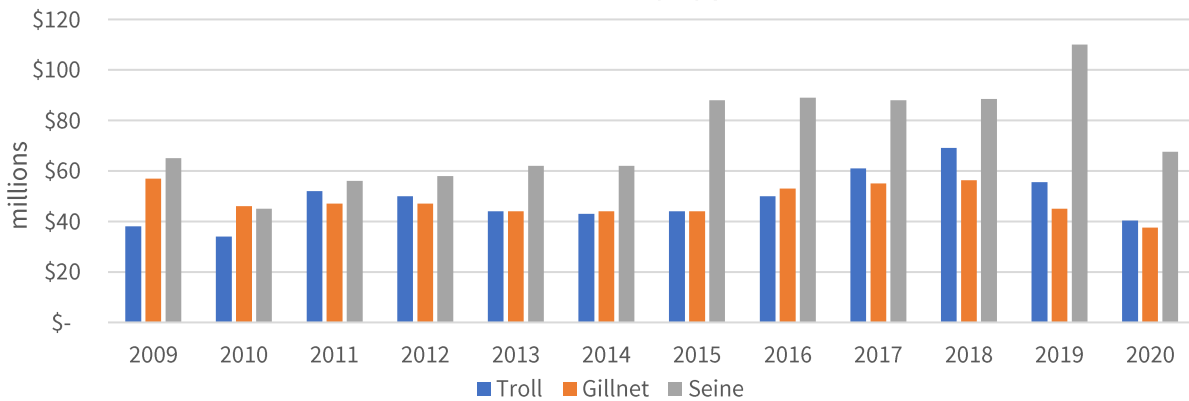
## Aggregate Licence and Quota Value - All Fisheries



## Salmon

Salmon licence values trended slightly upward until 2017 but have declined thereafter. From 2019 to 2020, gillnet licences decreased in value by 16%, seine licences decreased by 39%, and troll licences decreased by 27%. This decrease in values is somewhat attributed to reported uncertainty in governmental policy and perceived risk in the fishery due to potential for loss of access and fishing opportunities. The structural decline in salmon fisheries has been exacerbated by the general economic impacts of COVID-19 (including declining consumption by the restaurant industry). The Big Bar landslide, which occurred in 2019 along a remote section of the Fraser River near Lillooet, British Columbia, led to low sockeye returns and closures, and industry informants perceive it will continue to have an impact over the medium term.

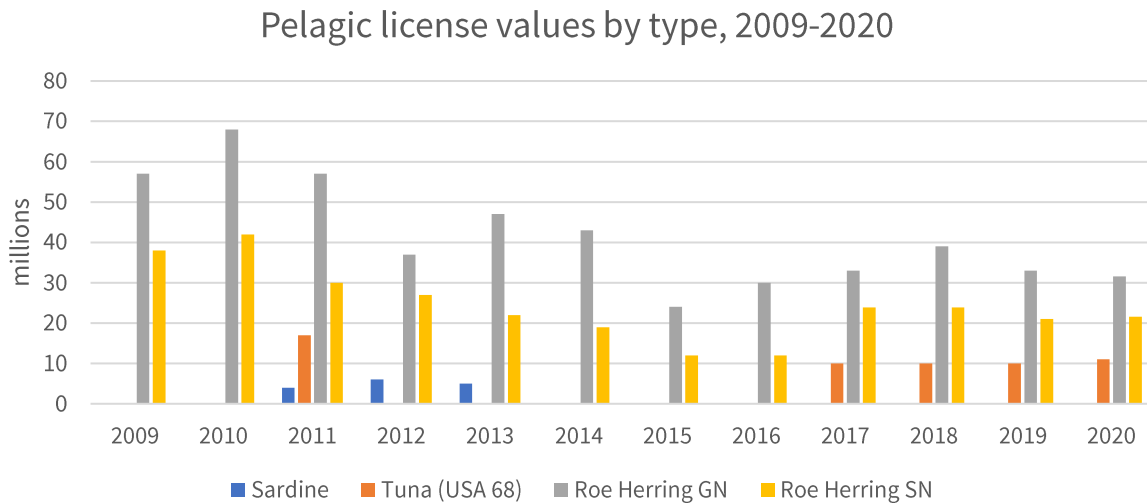
## Salmon license values by type, 2009-2020



## Pelagics

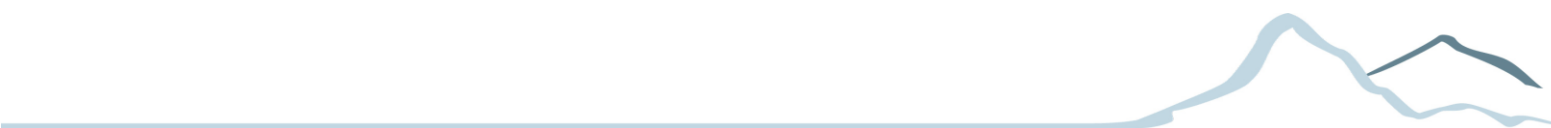
Both herring fisheries remained somewhat stable in 2020. The value of herring gillnet licences declined by 4%, while the value of herring seine licences increased slightly by 3%. Both fisheries saw significant movement in licences over the past year. Seine licences were perceived to have held their value in 2020, while gillnet licence prices were viewed to be more volatile over the past year. COVID-19 impacts on both fisheries were limited, though industry experts did comment on greater uptake of herring roe in international markets (especially in Japan) due to changing tastes, which is a positive for licence and lease values.

There have been no sardines present off the coast of B.C. for the seventh-straight year, resulting in no sardine fishery. Canada and the U.S. concluded negotiations on the United States – Canada Albacore Tuna Treaty in mid-2020. USA68 licences saw a moderate increase in value; industry experts noted that there were multiple licences for sale but few being purchased.



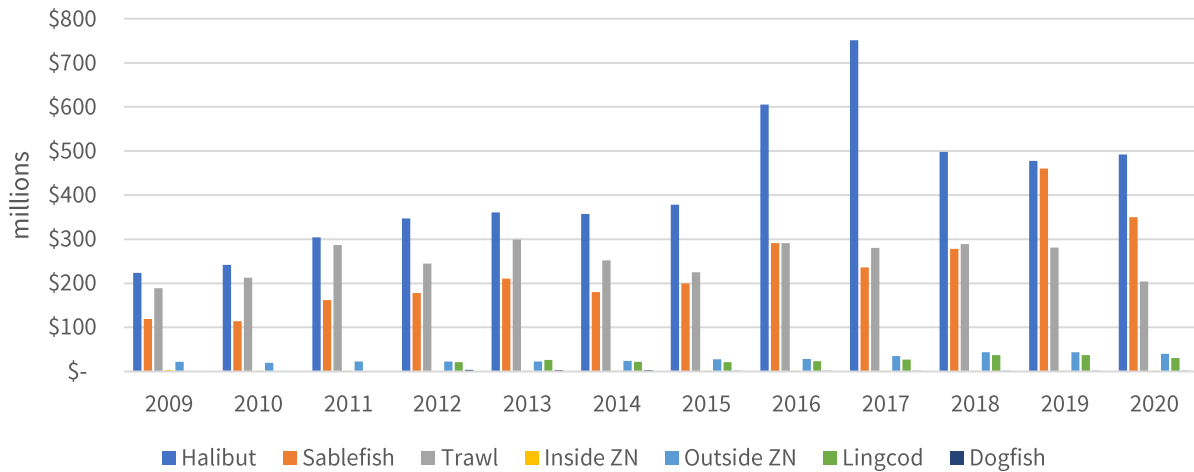
## Groundfish

The total value of licences and quota in all groundfish fisheries fluctuated moderately over the past year. Halibut and inside rockfish licences rose by 3% and 25% respectively. Sablefish, groundfish trawl, outside rockfish and lingcod licences fell by 24%, 27%, 10% and 16%. Dogfish licence values remained stable. The halibut fishery was viewed as a success story during COVID-19, as it was able to shift focus to direct-to-consumer markets from food-service industries. Sablefish is viewed as a fishery with strong fundamentals, but one that has higher costs of fishing and is more difficult to catch compared to halibut. Sablefish was greatly impacted by restaurant closures and the shutdown of the cruising industry, and it did not see direct-to-



consumer uptake as it is seen as a difficult to prepare fish. Rockfish (particularly outside rockfish) continues to be strong due to its value for bycatch species. There was very little movement in groundfish trawl licences.

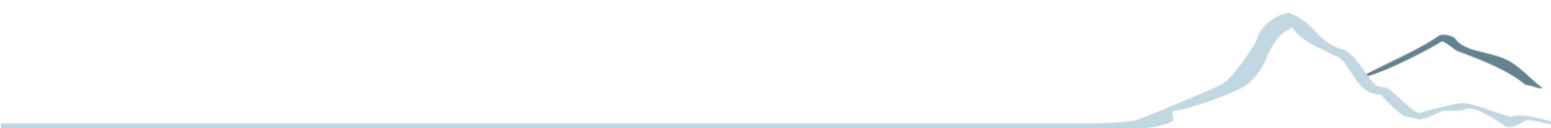
Groundfish licence and quota values by type, 2009-2020



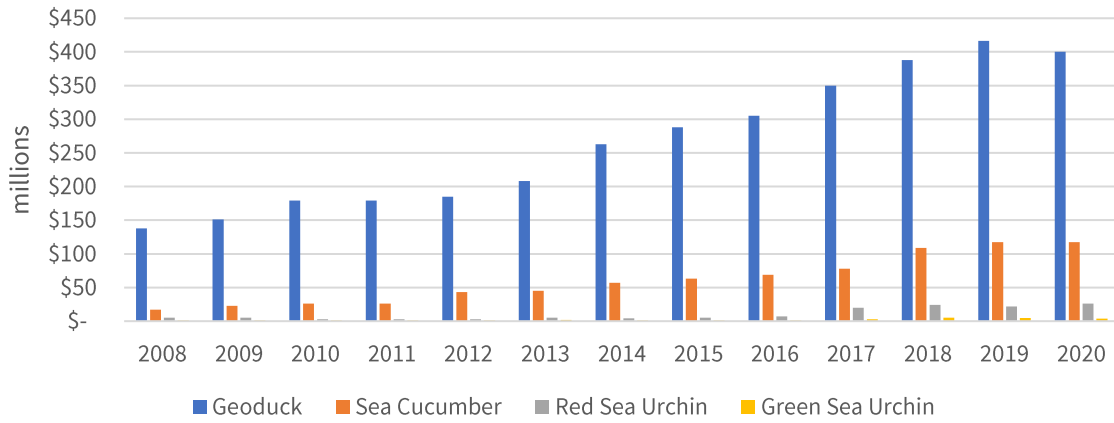
## Shellfish

Overall, the shellfish dive fisheries appear stable with slight growth. Geoduck licence and quota values fell by 4%. Sea cucumber licences were thinly traded over 2020, and prices remained stable. Red urchin values increased by 20%, while green urchin values declined by 20%.

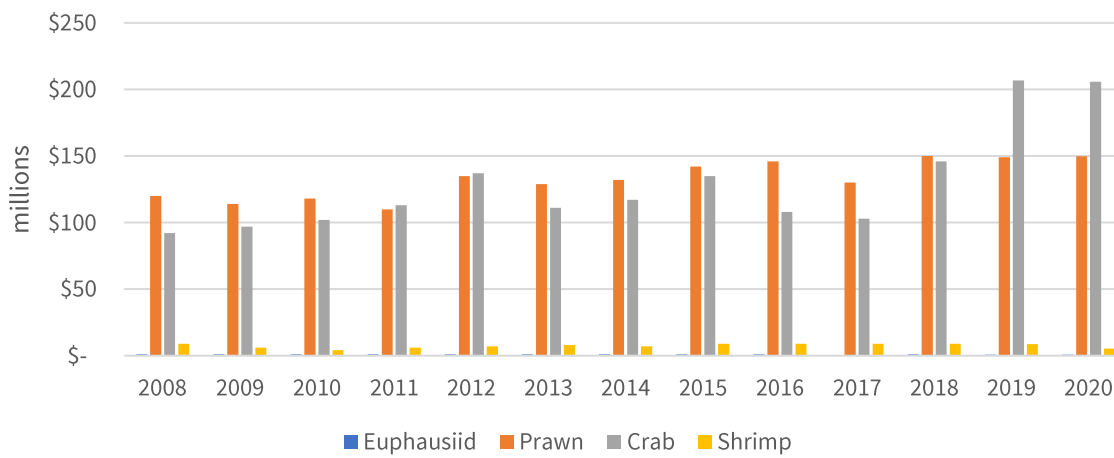
Prawn licence values increased by 1% in 2020, but there is a perception that the market may be overly frothy given the proliferation of small, high-speed boats that may drive up the prices of shorter vessel licences in the near-term. Shrimp values declined significantly, by 40%, partly attributable to COVID-19 but also following an overall trend of declining values. Given that the product is shipped live and primarily to Asia, crab fisheries have declined due to COVID-19 closures.



Dive fishery license values by type, 2008-2020



Trap fishery license values by type, 2008-2020



## Rates of return – leasing

The estimated rate of return for readily-leased licences or quota for the valuation period is shown in the following table. These licences are typically party-based or fisheries with IVQ. Estimates are the contractor's best effort to capture a value for market lease rates that can vary widely based on fishing area, vessel length, and other fishery specific factors. In cases where no lease transactions were uncovered, estimates were used based on the 2019 report. For the herring fisheries, these values reflect the value and return on full fee licences only.

Fishery	Lease Rate	Quota/Licence Valuation	Rate of Return	Year of Lease Valuation
Herring – roe seine	\$-	\$90,000/licence	0.00%	n/a
Herring – roe gillnet	\$2,750/licence	\$35,000/licence	7.86%	2020
Halibut	\$3.50/lb	\$95/lb	3.68%	2020
Sablefish	\$1.50/lb	\$84/lb	1.79%	2020
Trawl – groundfish (uncut)	\$0.13/lb	\$1.70/lb	7.65%	2019
Trawl – groundfish (hake)	\$0.01/lb	\$0.20/lb	5.00%	2019
Rockfish inside	\$2,150/licence	\$37,500/licence	5.73%	2020
Rockfish outside	\$8,500/licence	\$252,000/licence	3.37%	2019
Lingcod hook and line	\$0.25/lb	\$12/lb	2.08%	2020
Dogfish hook and line	\$-	\$0.11/lb	0.00%	n/a
Prawn	\$15,000/licence	\$810,000/licence	1.85%	2020
Crab	\$23,750/licence	\$1,100,000/licence	2.16%	2020
Geoduck	\$12/lb	\$775,000/block	8.11%	2020
Sea cucumber	\$75,000/licence	\$1,400,000/licence	5.36%	2020
Red sea urchin	\$1,875/licence	\$325,000/licence	0.58%	2020
Green sea urchin	\$6,000/licence	\$80,000/licence	7.50%	2020



# Methodology

## Valuations performed

Fishery grouping	Fishery	Gear	Valuation				
			Avg. Vessel Value	Avg. Licence Value		Quota Value	Lease Value
				Full Fee	Reduced Fee		
Salmon	Salmon	Seine	x	x	x		x
	Salmon	Gillnet	x	x	x		x
	Salmon	Troll	x	x	x		x
Pelagics	Herring – roe	Seine	x	x	x		x
	Herring – roe	Gillnet		x	x		x
	Herring – SOK						
	Tuna	Hook and Line		x			
	Sardine	Seine					
Groundfish	Halibut	Longline	x	x		x	x
	Sablefish	Longline/trap	x	x		x	x
	Groundfish trawl	Trawl	x	x		x	x
	Rockfish	Hook and Line	x	x			x
	Lingcod and Dogfish	Hook and Line				x	x
Shellfish	Prawn	Trap	x	x			x
	Crab	Trap	x	x			x
	Shrimp	Trawl	x	x			
	Geoduck	Dive	x	x		x	x
	Sea cucumber	Dive	x	x			x
	Green sea urchin	Dive	x	x			x
	Red sea urchin	Drive	x	x			x
Euphausiid	Trawl	x	x				
Schedule II	Schedule II species			x			



## Valuation methodology

Information on commercial fishing licence and quota values was gained through interviews with individual licence holders, brokers, fishers, processors, and anyone with knowledge of specific market transactions. Most valuations are a synthesis of multiple sources listed above. In cases where information could not be uncovered, data from the 2019 report was utilized. The following is a list of information sources, in descending order of perceived accuracy:

- Information based on actual transactions
- Anecdotal information on transactions or industry expert opinions on price levels
- Prices listed (but not transacted) from boat brokers or trade publications
- Contractor's judgement

Within each fishery valuation, the contractor has noted the number of uncovered transactions and denoted a value of high, medium (med), or low in the confidence of the valuation. Confidence levels have been assigned based on the confidence assigned in previous reports, consistency among transactions, and the variety of sources with consistent transactions.

### Licence and quota stratification and valuation criteria

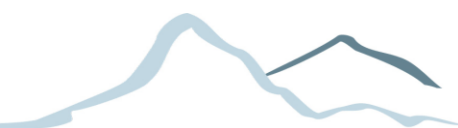
The valuation for each licence type includes the quota and units (per foot, per licence, etc.), an indication of the number of transactions uncovered, and the confidence of the valuation.

A general description is also included for:

- Licence designation (AS, AG, AT, etc.)
- Nature of licence (vessel or party-based)
- Number of commercial licences available
- Number of communal commercial licences available
- Licence management regime (area licensing including number of areas, stacking, etc.)
- The type of stratification utilized (per licence, per lb, etc.)
- Vessel build (classic or modern)
- Number of vessels

### Valuation trends

The valuation trend graphs were updated for each commercial fishery. It should be noted that these graphs are not adjusted for inflation, and in some cases, no new data was uncovered.



## Licensing information

For additional information regarding licensing of commercial fisheries in the Pacific region , please refer to the following sources:

- Integrated Fisheries Management Plans: <http://www.pac.dfo-mpo.gc.ca/fm-gp/ifmp-eng.html>
- DFO Licensing: <https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/licence-commercial-eng.html>

## Vessel valuation

Vessel values are arrived at by using past data for average vessel value as a baseline; however, the number of vessels has been updated and adjusted. This is an imperfect valuation approach given that there have been major changes to the pacific fishing fleet in the last decade, and we note that these estimates may not always reflect true pricing in 2020.

In determining the number of vessels, duplicates within a licence eligibility were identified and removed from the total count as some licences allow for stacking multiple licences on a single vessel. If a vessel has more than one licence eligibility, it may be counted separately under different licence categories. For example, a vessel may be counted once under its halibut licence, and once under its salmon gillnet licence. Vessels were then counted as either modern or classic. Modern vessels are those built from 1980 while classic vessels are those built before 1980. Since this criterion was used to distinguish vessels, vessels that did not include information about the year the vessel was built were not counted. As a result, not all vessels from the data set are included in the valuation.

Fleet vessel valuation is imprecise and uses incomplete datasets. The number of licenced vessels is drawn from one data source, DFO's *Pacific Region Commercial Fishing Licences Database*. This database provided vessel details for the following licence eligibilities: AS, AG, AT, L, K, T, W, R, S, and G. It did not include information on HS, HG, ZN, ZD, ZA, ZC, or ZF. For these fisheries the vessel count is based on past information.



# SALMON – Salmon seine (AS)

## Background to valuation

General	
Licence designation	AS
Nature of Licence	Vessel-based
# commercial licences	209
# communal commercial licences	67
Area licensing?	2 areas (A + B)
Stacking?	Yes
Competitive or quota mgmt.?	Competitive

Valuation Parameters	
Licence	Per licence
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	low
# transactions underlying valuation	~5
Confidence in current year valuation	low



## Current valuation

Licence value as of December 31, 2020

Category	# of Licences	Value/Licence	Total Value
<b>AS Licence - Full fee</b>	194	\$325,000	\$63,050,000
<b>AS Licence - Reduced fee</b>	15	\$305,728	\$4,585,920
<b>FAS Licence - Communal commercial</b>	67	n/a	n/a
<b>All AS/FAS</b>	276	\$323,600	\$67,635,290

## Valuation comments

- We uncovered AS licence transactions in the range of \$250,000-\$350,000, showing a decline from 2019 values that were in the \$500,000 range.
- Higher licence prices are from pre-season sales. Prices decreased throughout the season. At the end of the season, licences were listed for \$350,000 but did not appear to be moving at that price.
- No reduced fee licence transactions were uncovered. Reduced fee values have been estimated by applying the 2019-2020 rate of change of the full fee licence value to the 2019 reduced fee licence value.

## Vessel value

Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. The number of vessels has been updated based on DFO's *Pacific Region Commercial Fishing Licences Database*. However, we have only included vessels for which a vessel age was provided. As such, aggregate value represents only a portion of the total fleet. For more information about the limitations of this analysis please refer to the Valuation Methodology.

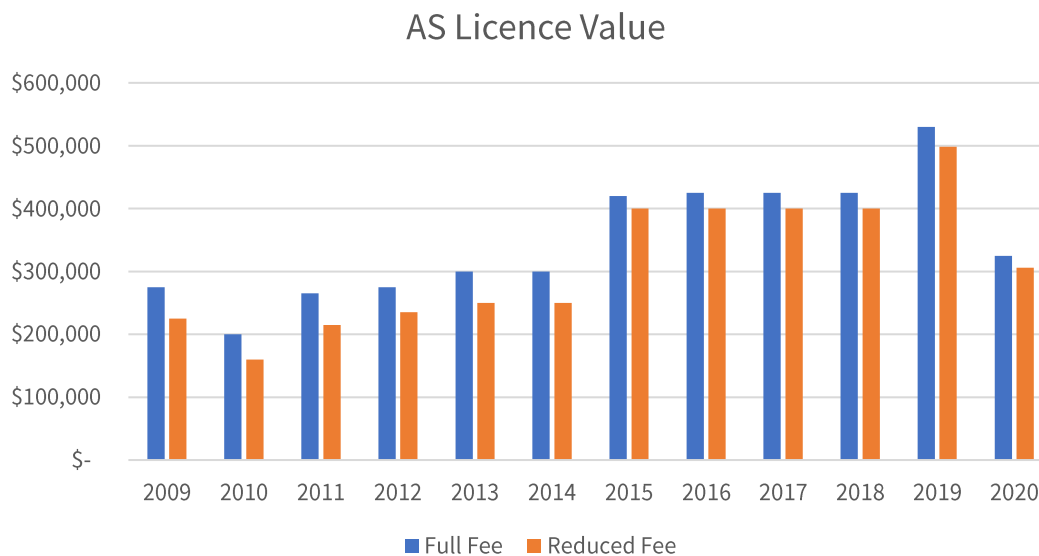
Salmon Seine	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	72	\$188,400	\$13,564,800
<b>Modern</b>	36	\$661,500	\$23,814,000
<b>Total</b>	108	\$344,650	\$37,222,200



## Licensing trends

### Recent AS licence valuations

Salmon seine prices were higher at the beginning of 2020; however, there was a drop in value as the season progressed, with a significant drop starting in March (when COVID-19 restrictions started to be put in place). Industry experts have commented that broader uncertainty in the fishery has caused a decline in licence values. Licence prices are now lower than they were in 2015.



### Recent AS Licence lease rates

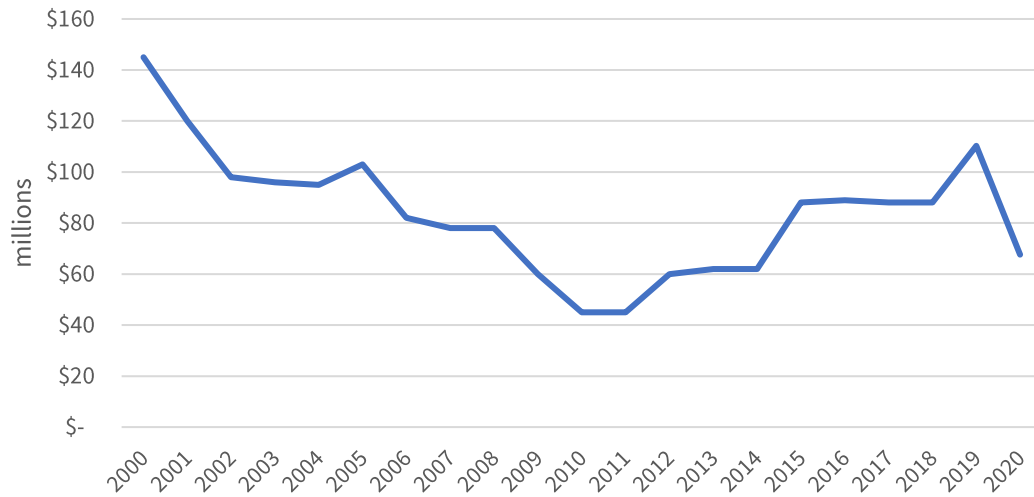
No lease transactions were uncovered for AS licences.

### Aggregate value of AS Licences (\$ million by year)

Aggregate licence values have decreased significantly over the past year, due to a combination of COVID-19 impacts and broader structural changes in the fishery.



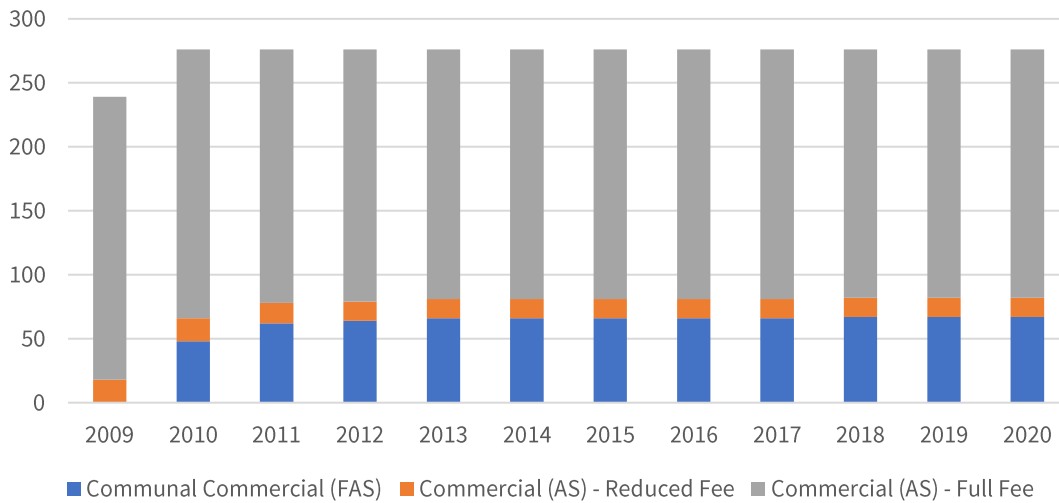
## Aggregate AS Licence Value



## AS licence counts by category

The number of AS licences remained stable over 2020.

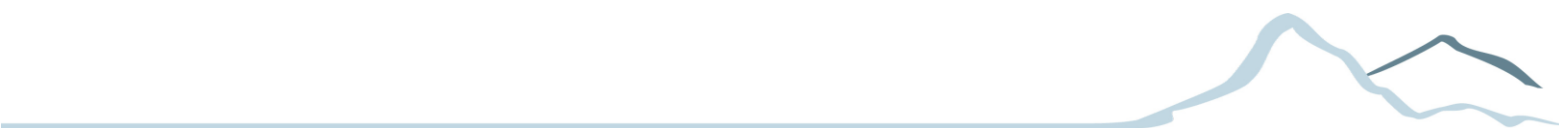
### AS Licence Counts by Category



## Outlook/commentary

The outlook for the salmon seine sector is uncertain given the following observations:

- There is general uncertainty within the industry regarding the policy/regulatory environment of salmon fisheries, which some fear could result in fewer commercial fishing opportunities. This results in a perception that salmon fisheries are 'high-risk' and reduces demand for licences.
- There are structural uncertainties related to environmental concerns, including the potential and demonstrated impacts of climate change, aquaculture activity, industrialization, and forestry practices. These uncertainties have all impacted the long-term perceived value of the fishery.
- Recent events and management measures have limited fishing opportunities, including low sockeye returns, closures intended to restore chinook populations, and the 2019 Bar Big landslide along the Fraser River near Lillooet, B.C. that blocked salmon runs.
- COVID-19 has exacerbated these uncertainties, as with most fisheries. Decreased demand from the restaurant industry, together with disrupted export markets will continue to influence salmon prices and salmon licence prices in 2021.



# SALMON – Salmon gillnet (AG)

## Background to valuation

General	
Licence designation	AG
Nature of Licence	vessel-based
# commercial licences	800
# communal commercial licences	333
Area licensing?	3 areas (C, D, E)
Stacking?	yes
Competitive or quota mgmt.?	competitive

Valuation Parameters	
Licence	Per licence
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	med
# transactions underlying valuation	~6
Confidence in current year valuation	high



## Current valuation

Category	# of Licences <sup>1</sup>	Value/Licence	Total Value
<b>AG - Full fee</b>	696	\$47,500	\$33,060,000
<b>AG - Reduced fee</b>	104	\$43,778	\$4,552,915
<b>FAG - Communal commercial</b>	333	n/a	n/a
<b>All AG/FAG</b>	1,133	\$47,016	\$37,612,915

## Valuation comments

- Licence values ranged from \$37,500-\$60,000 (full fee) and varied in this range across all fishing areas.
- Most sales, especially those with higher values, likely occurred earlier in the season prior to COVID-19 restrictions beginning in March. Industry informants indicated that current prices are on the lower side, in the range of \$40,000-\$45,000.
- No reduced fee licence transactions were uncovered. Reduced fee values have been estimated by applying the 2019-2020 rate of change of the full fee licence value to the 2019 reduced fee licence value.

## Vessel value

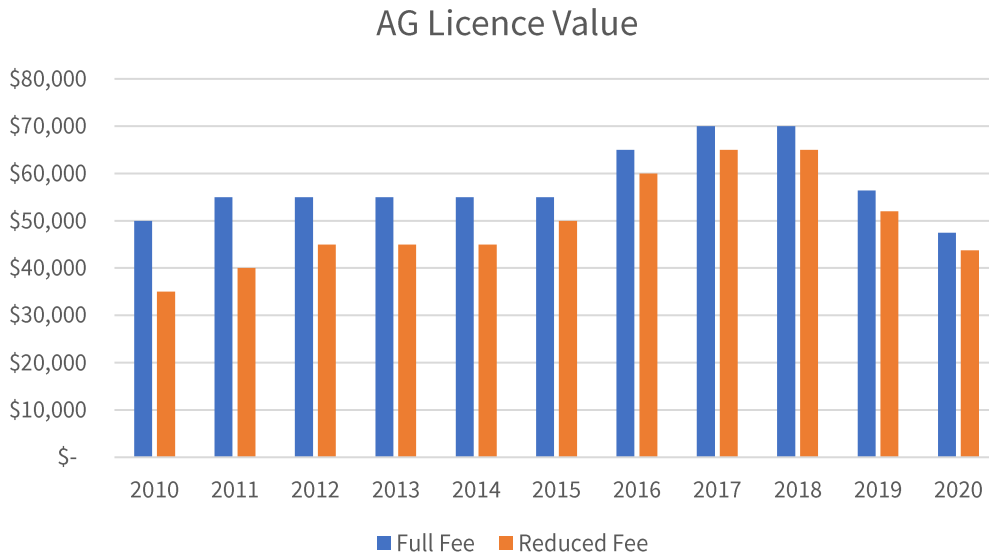
Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. The number of vessels has been updated based on DFO's *Pacific Region Commercial Fishing Licences Database*. However, we have only included vessels for which a vessel age was provided. As such, aggregate value represents only a portion of the total fleet. For more information about the limitations of this analysis please refer to the Valuation Methodology.

Salmon Gillnet	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	285	\$74,750	\$21,303,750
<b>Modern</b>	235	\$165,900	\$38,986,500
<b>Total</b>	520	\$115,500	\$60,060,000

<sup>1</sup> In addition to AG and FAG licence eligibilities, there are 254 NAG licences in the gillnet fishery held by the Northern Native Fishing Corporation which are not valued in this study.

## Licensing trends

### Recent AG licence valuations

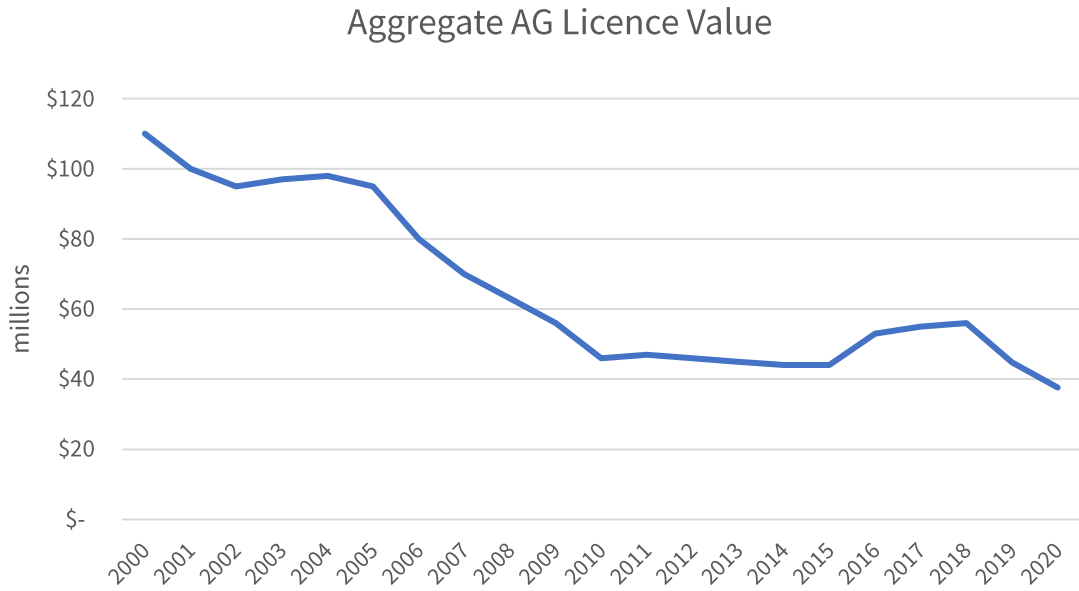


### Recent AG licence lease rates

Lease rates in 2020 ranged from \$1,500-\$1,750, though limited data was uncovered so confidence in this value is low. The valuation only uncovered lease data for Areas D and E so it is difficult to evaluate the difference in lease prices across other areas.

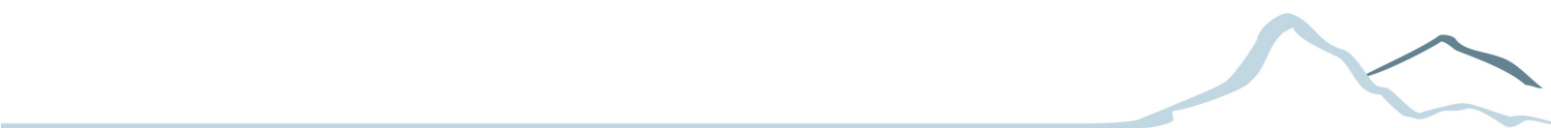
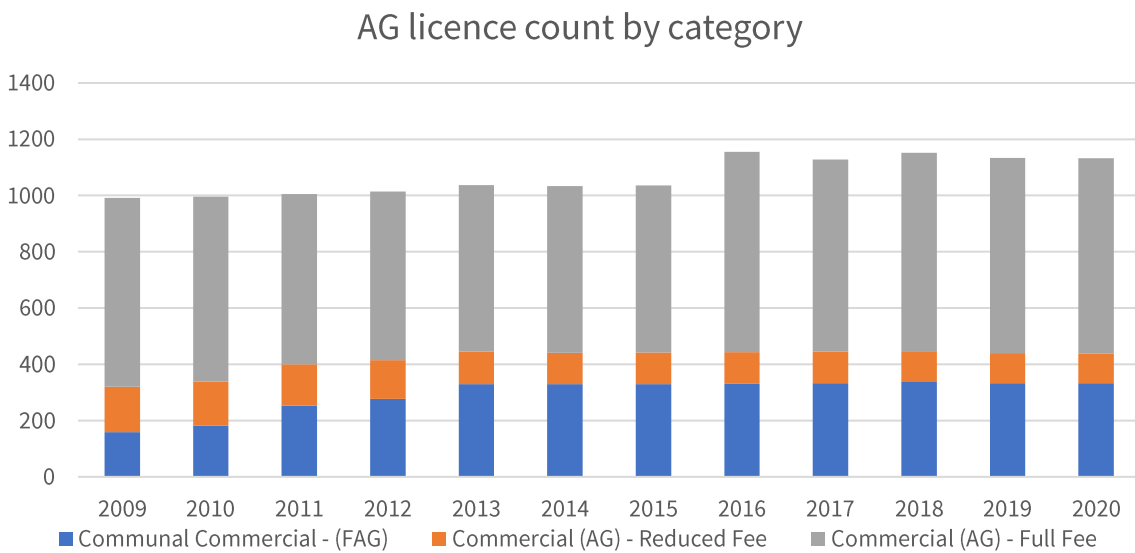


## Aggregate value of AG licences (\$ millions by year)



## AG licence counts by category

The number of AG licences remained stable during 2020.



## Outlook/commentary

The outlook for the salmon gillnet fishery is generally negative given the following observations:

- Low stock abundance, low anticipated returns, potential closures, and the 2019 Big Bar landslide amplified the negative outlook for 2020 and into the medium term (2-5 years).
- Industry experts stated that AG licence prices are falling due to the anticipation of limited fishing opportunities in 2021.
- COVID-19 uncertainties amplified the negative outlook for the fishery.
- The rollout of mass-vaccination campaigns and attendant reduction in pandemic measures may impact market sentiment positively in the near term.



# SALMON – Salmon troll (AT)

## Background to valuation

General	
Licence designation	AT
Nature of Licence	vessel-based
# commercial licences	286
# communal commercial licences	90
Area licensing?	3 areas (F, G, H)
Stacking?	yes
Competitive or quota mgmt.?	competitive

Valuation Parameters	
Licence	per licence
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	Med
# transactions underlying valuation	~15
Confidence in current year valuation	high



## Current valuation

Licence value as of December 31, 2020

Category	# of Licences	Value/Licence	Total Value
<b>AT - Full fee</b>	278	\$141,500	\$39,337,000
<b>AT - Reduced fee</b>	8	\$120,254	\$962,032
<b>FAT - Communal commercial</b>	90	n/a	n/a
<b>All AT/FAT</b>	376	\$140,905	\$40,299,032

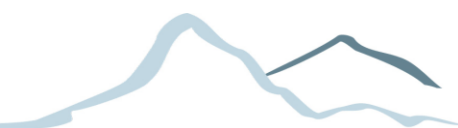
## Valuation comments

- We uncovered transactions ranging from \$130,000-\$150,000.
- No reduced fee licence transactions were uncovered. Reduced fee values have been estimated by applying the 2019-2020 rate of change of the full fee licence value to the 2019 reduced fee licence value.

## Vessel value

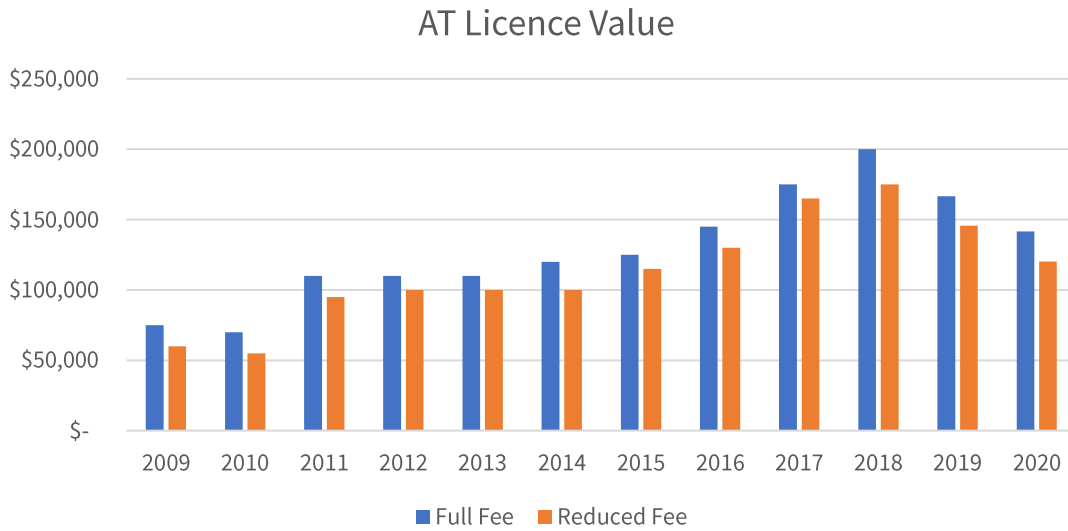
Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. The number of vessels has been updated based on DFO's *Pacific Region Commercial Fishing Licences Database*. However, we have only included vessels for which a vessel age was provided. As such, aggregate value represents only a portion of the total fleet. For more information about the limitations of this analysis please refer to the Valuation Methodology.

Salmon Troll	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	186	\$139,300	\$25,909,800
<b>Modern</b>	39	\$268,300	\$10,463,700
<b>Total</b>	225	\$163,400	\$36,765,000



## Licensing trends

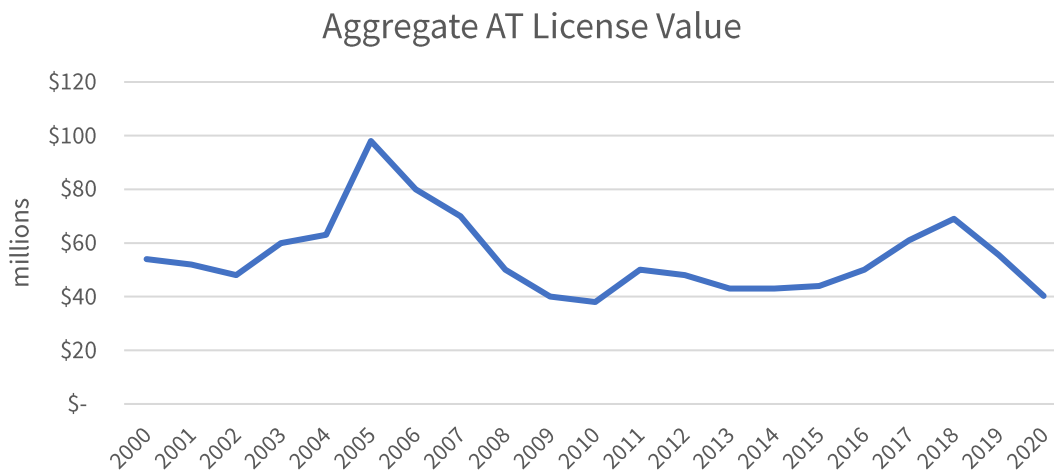
### Recent AT licence valuation



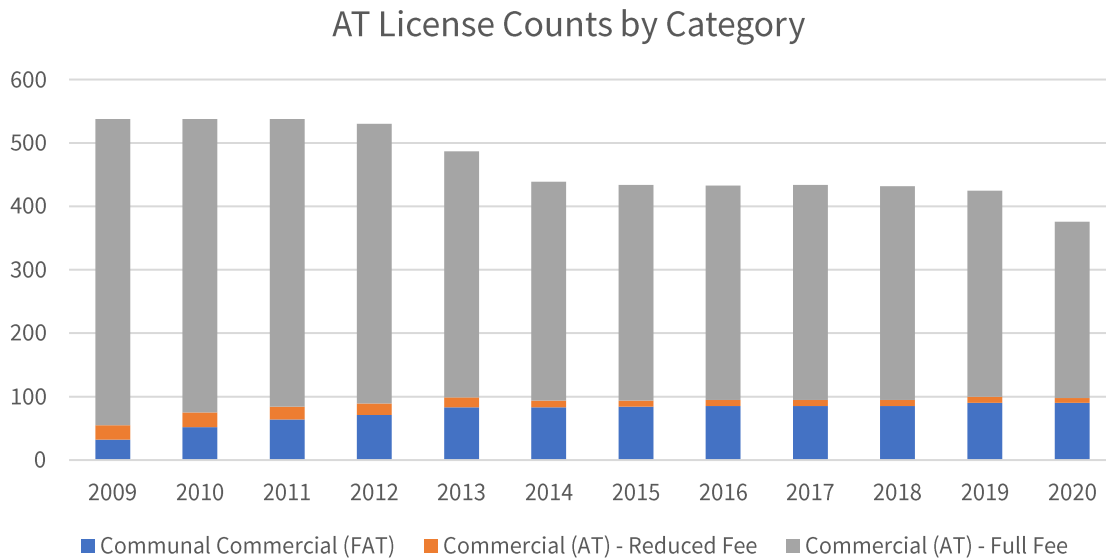
### Recent AT licence lease rate

No lease values were uncovered for 2020.

### Aggregate value of AT licence (\$ millions by year)



## AT licence counts by category



## Outlook/commentary

General outlook and commentary for the salmon troll sector includes the following:

- In 2020, there were limited sockeye openings on the coast.
- The salmon troll fishery is perceived as high-risk due to low stock abundance and closures.
- Fishing on the coast is perceived as sporadic and high-risk due to threats from climate change, management decisions limiting fishing opportunities (i.e., marine protected areas, closures), and reduced abundance.
- The 2019 Big Bar landslide and the decimation of restaurant markets due to COVID-19 have added to the general uncertainty and perceived pessimism in the long-term viability of this fishery.
- The rollout of mass-vaccination campaigns and attendant reduction in pandemic measures may impact market sentiment positively in the near term.



# PELAGICS – Roe herring seine (HS)

## Background to valuation

General	
Licence designation	HS
Nature of Licence	party-based
# commercial licences	241
# communal commercial licences	11
Area licensing?	5 areas
Stacking?	yes (limited)
Competitive or quota mgmt.?	pools (equal sharing)

Valuation Parameters	
Licence	per licence
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	low
# transactions underlying valuation	~6
Confidence in current year valuation	med



## Current valuation

Licence value as of December 31, 2020

Category	# of Licences	Value/Licence	Total Value
<b>HS - Full fee</b>	218	\$90,000	\$19,620,000
<b>HS - Reduced fee</b>	23	\$85,500	\$1,966,500
<b>FHS - Communal commercial</b>	11	n/a	n/a
<b>All HS/FHS</b>	252	\$89,600	\$21,586,500

## Valuation comments

- Full fee licences ranged from \$50,000-\$115,000, with industry experts noting that the market price was likely around \$90,000 or lower.
- No reduced fee licence transactions were uncovered. Reduced fee values have been estimated by applying the 2019-2020 rate of change of the full fee licence value to the 2019 reduced fee licence value.

## Vessel value

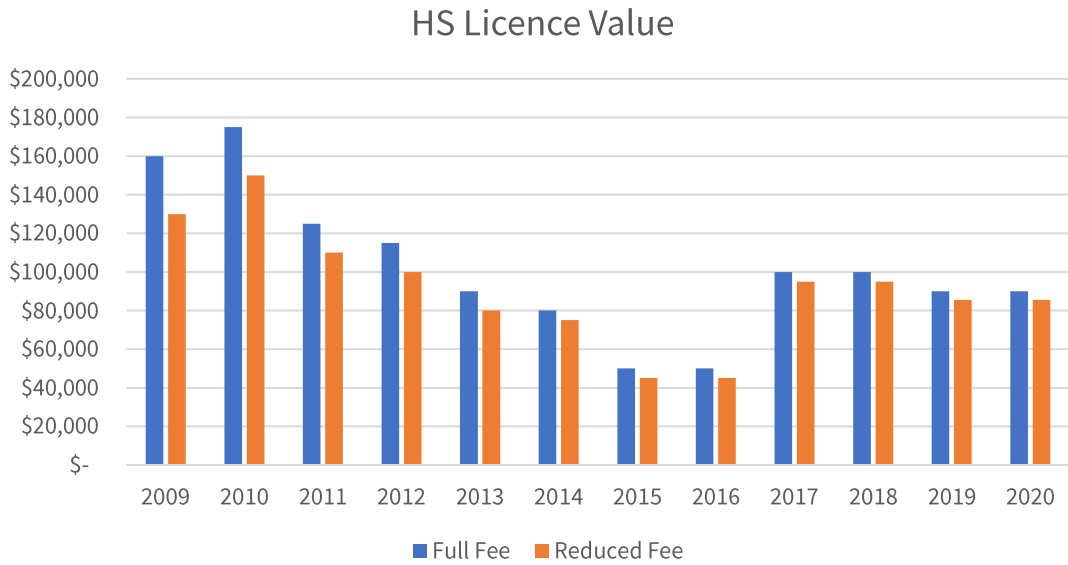
Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. For this fishery, we were not able to update the number of vessels as this information was not available from DFO's *Pacific Region Commercial Fishing Licences Database*. As such, the vessel numbers below have been taken from last year's report. For more information about the limitations of this analysis please refer to the Valuation Methodology.

Herring Seine	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	55	\$179,200	\$9,856,000
<b>Modern</b>	33	\$750,600	\$24,769,800
<b>Total</b>	88	\$393,500	\$34,628,000



## Licensing trends

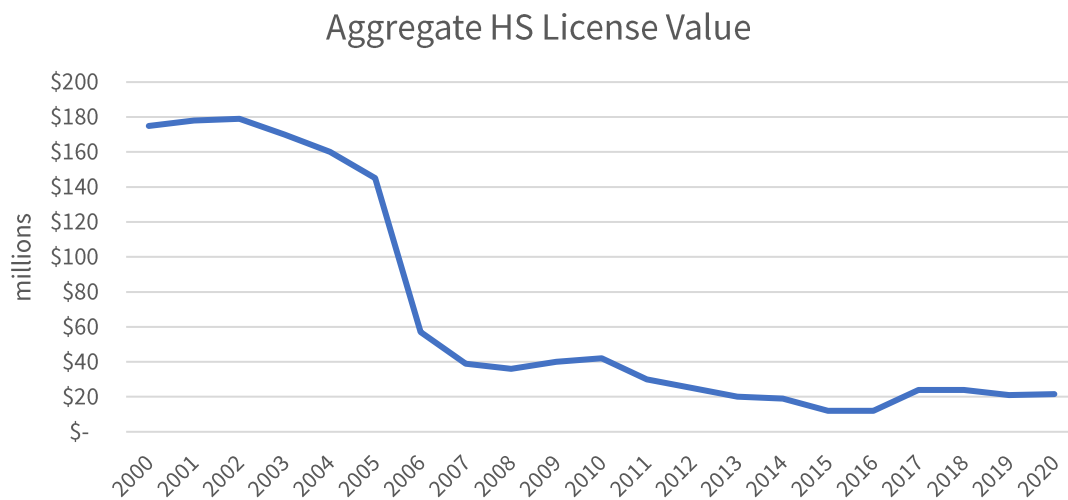
### Recent HS licence valuation



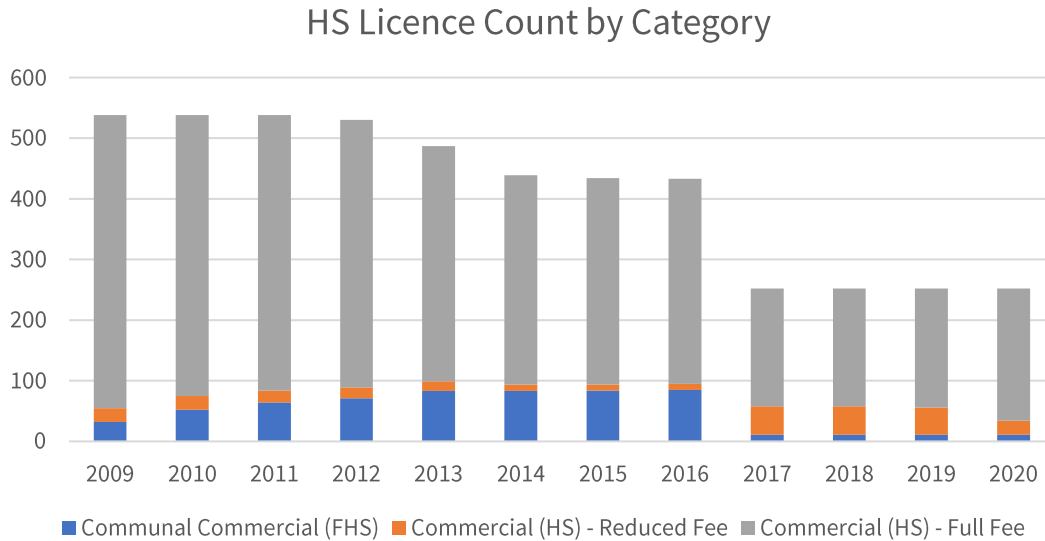
### Recent HS licence lease rates

No lease transactions were uncovered for HS licences.

### Aggregate value of HS licence (\$ millions by year)



## HS Licence counts by category



## Outlook/commentary

The following observations summarize the outlook for the roe herring seine fishery:

- This was a challenging year for the fishery, with COVID-19 causing the main export market, Japan, to close up. However, industry experts commented that broader socio-cultural changes have led to a resurgence of roe herring consumption amongst youth in Japan, boding well for a fishery that saw declining licence values up until 4 years ago.



# PELAGICS – Roe herring gillnet (HG)

## Background to valuation

General	
Licence designation	HG
Nature of Licence	party-based
# commercial licences	979
# communal commercial licences	280
Area licensing?	5 areas
Stacking?	yes
Competitive or quota mgmt.?	pools (equal sharing)

Valuation Parameters	
Licence	per licence
Quota	n/a
Vessels	n/a
Amount of trading activity in category this year	high
# transactions underlying valuation	~26
Confidence in current year valuation	high



## Current valuation

Licence value as of December 31, 2020

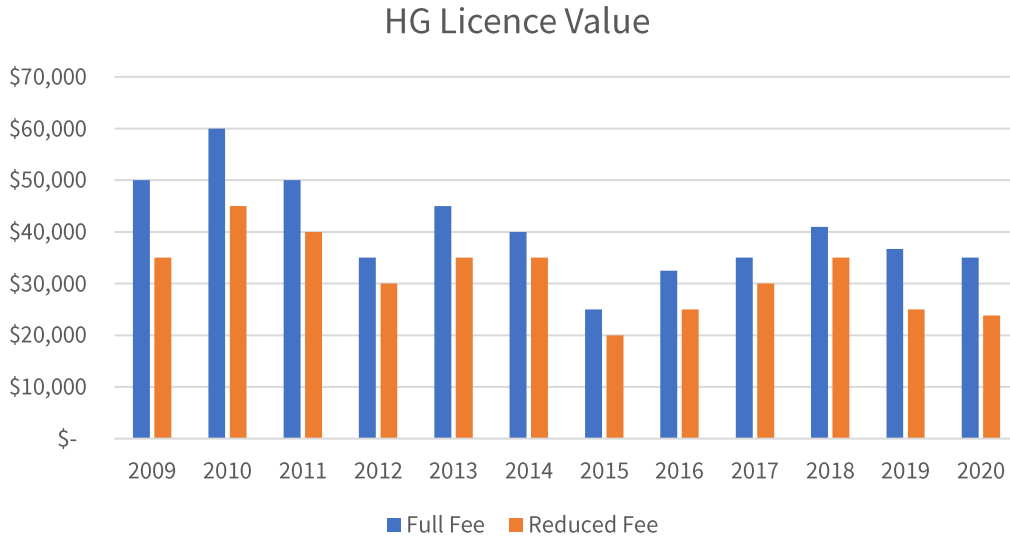
Category	# of Licences	Value/Licence	Total Value
<b>HG - Full fee</b>	740	\$35,000	\$25,900,000
<b>HG - Reduced fee</b>	239	\$23,830	\$5,695,591
<b>FHG - Communal commercial</b>	280	n/a	
<b>All HG/FHG</b>	1,259	\$32,273	\$ 31,595,591

## Valuation comments

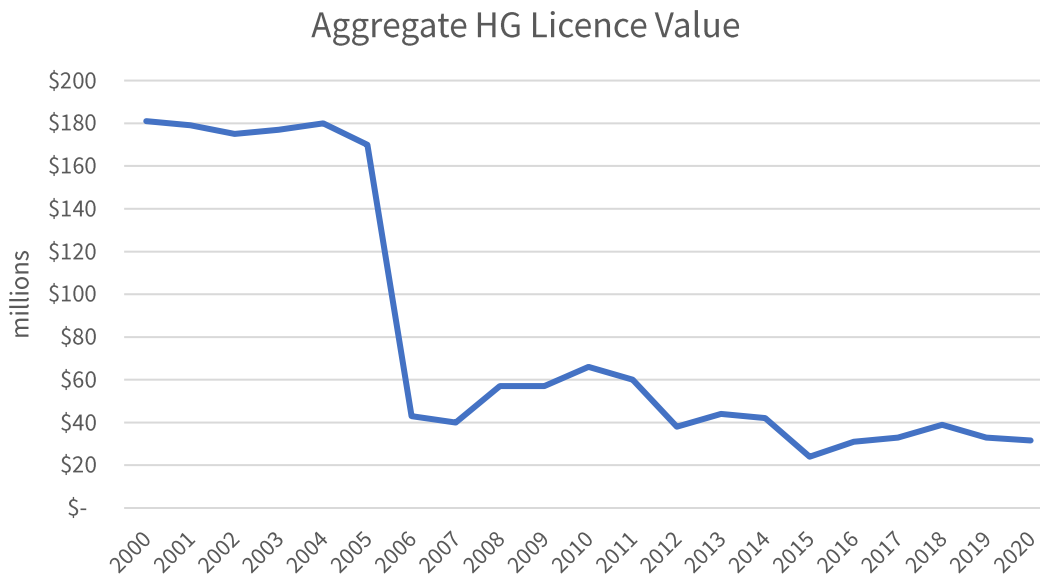
- Licence values ranged from \$33,000-\$39,000.
- No reduced fee licence transactions were uncovered. Reduced fee values have been estimated by applying the 2019-2020 rate of change of the full fee licence value to the 2019 reduced fee licence value.
- Values for full fee licences have dipped since 2018 and industry experts are questioning the future viability of the herring fishery due to total allowable catch and stock abundance declines. This is likely impacting licence values. However, we also heard that these licences are in high demand and are selling quickly when available.

## Licensing trends

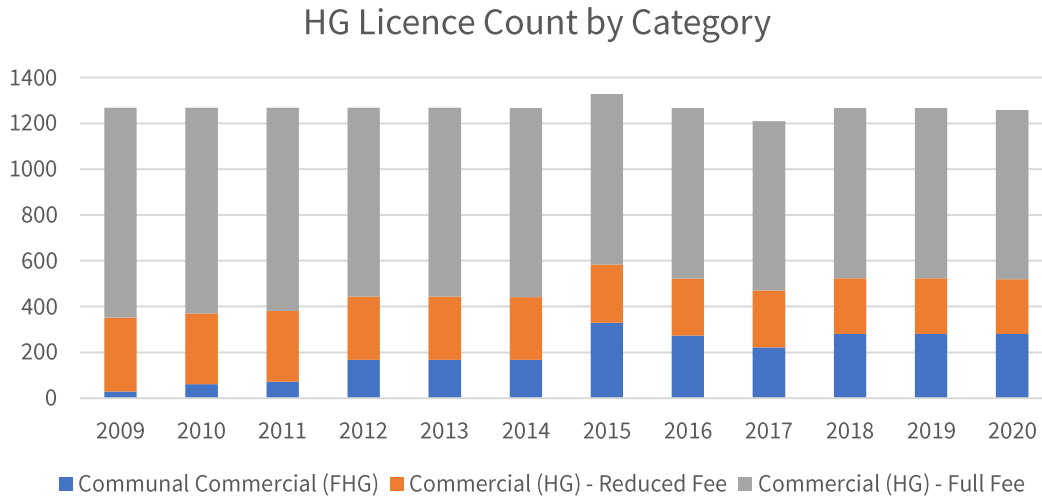
### Recent HG licence valuation



### Aggregate value of HG licences (\$ millions by year)



## HG licence counts by category



## Recent HG licence lease rates

HG licences leased in the range of \$2,750 in 2020, however we had limited verification of this value.

## Outlook/commentary

- The future of the herring fishery is in question and perceived as high-risk for entry due to changes in total allowable catch each season and declining stock abundance.
- As with the herring seine fishery, there is some positive news that there is a resurgence in demand from Japan due to youth consuming more herring roe, though it remains to be seen if this will be enough to counter the impacts of reduced stock abundance.
- Industry experts have also noted the widening differential between full fee and reduced fee licences, indicating few Indigenous gillnetters wanting to participate in this fishery.



# PELAGICS – Tuna (USA 68)

## Background to valuation

General	
Licence designation	USA 68
Nature of Licence	vessel-based
# commercial licences	45
# communal commercial licences	0
Area licensing?	no
Stacking?	no
Competitive or quota mgmt.?	competitive

Licence Parameters	
Licence	per licence
Quota	n/a
Vessels	n/a
Amount of trading activity in category this year	low
# transactions underlying valuation	~4
Confidence in current year valuation	med



## Current valuation

Licence value as of December 31, 2020

Category	# of Licences	Value/Licence	Total Value
<b>USA 68 Licence</b>	45	\$250,000	\$11,250,000

## Valuation comments

- Only four transactions were uncovered, although roughly six licences were on sale in the market at the time of writing.
- Most tuna fishers do not rely on the USA 68 licence, rather they seek a tuna permit under the schedule II privileges at a substantive savings.
- On May 26, 2020 Canada and the United States concluded the negotiation on the renewal of the fishing regime under the Pacific Albacore Treaty with the United States, agreeing to renew the regime until December 2022.



# PELAGICS – Sardine (ZS)

## Background to valuation

General	
Licence designation	ZS
Nature of Licence	party-based
# commercial licences	25
# communal commercial licences	25
Area licensing?	no
Stacking?	no
Competitive or quota mgmt..?	quota

Valuation Parameters	
Licence	per licence
Quota	n/a
Vessels	n/a
Amount of trading activity in category this year	none
# transactions underlying valuation	none
Confidence in current year valuation	no valuation provided

## Current valuation

Licence value as of December 31, 2020

Category	# of Licences	Value/Licence	Total Value
ZS Licence	25	n/a	n/a

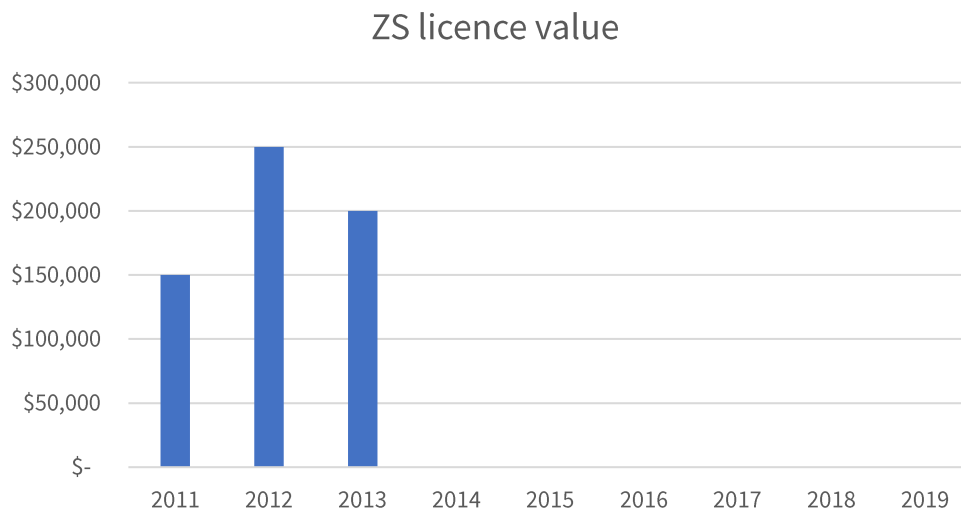


## Valuation comments

- 2020 marked the seventh consecutive season that there has been no presence of sardine on the BC coast, resulting in no harvesting for the season.
- No transactions were uncovered for this licence and it is likely no transactions took place.

## Licensing trends

### Recent ZS licence valuation



## Outlook/commentary

- For the seventh straight year, sardine numbers remained below the cut-off level to allow the directed fishery to open.
- Sardine presence off the coast of BC directly relates to oceanic conditions and their migration is generally understood to be on a 50-year cycle. There is no predicted sardine fishery in BC coastal waters until sardine stocks rebound.



# GROUND FISH – Halibut (L)

## Background to valuation

General	
Licence designation	L
Nature of Licence	vessel-based
# commercial licences	341
# communal commercial licences	92
Area licensing?	no
Stacking?	no
Competitive or quota mgmt.?	quota

Valuation Parameters	
Licence	per foot
Quota	per lb (dressed head)
Vessels	yes
Amount of trading activity in category this year	med
# transactions underlying valuation	~ 8 (licences) ~ 15 (quota)
Confidence in current year valuation	med



## Current valuation

Category	# of Licences/ lbs of Quota	Value/Licence Value/Quota	Avg. Licence	Total Value
<b>L Licence - Commercial</b>	341	\$800/ft	\$32,200	\$10,980,200
<b>FL Licence - Communal commercial</b>	92	n/a	n/a	n/a
<b>Halibut Quota</b>	5,067,250 lbs	\$95/lb	n/a	\$481,388,750
<b>Total Value (Licences and Quota)</b>	n/a	n/a	n/a	\$492,368,950

## Valuation comments

- Average licence value based on \$800 per foot and a 40.25 ft average vessel length is \$32,200.
- Market value of halibut quota ranged from \$90-\$100/lb.
- Industry experts noted that quota prices at the start of COVID-19 restrictions were as low as \$80/lb, climbing to \$90/lb mid-year, and hitting around \$95/lb toward the end of the season.
- Industry experts also noted that the total poundage of halibut quota traded this year was low.
- There are a limited number of grandfathered licences that are attached to a larger portion of the TAC. These usually sell for higher values, while married licences trade for lower values.

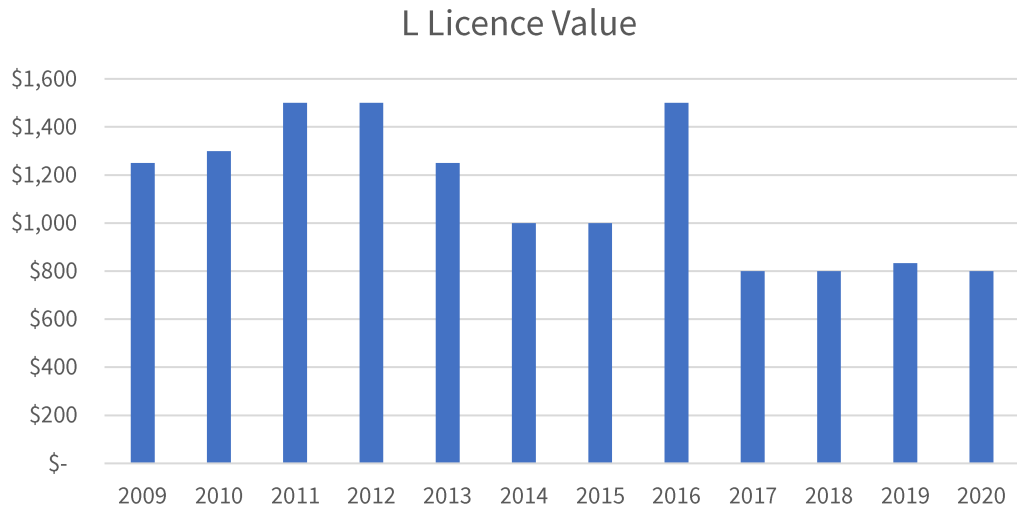
## Vessel value

Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. The number of vessels has been updated based on DFO's *Pacific Region Commercial Fishing Licences Database*. However, we have only included vessels for which a vessel age was provided. As such, aggregate value represents only a portion of the total fleet. For more information about the limitations of this analysis please refer to the Valuation Methodology.

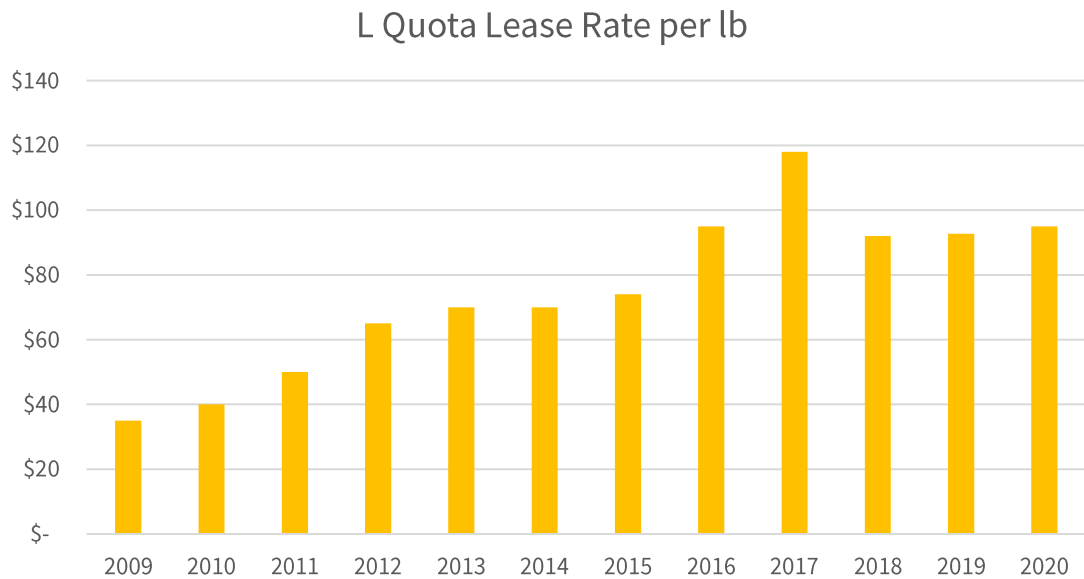
Halibut	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	182	\$150,500	\$27,391,000
<b>Modern</b>	88	\$274,400	\$24,147,200
<b>Total</b>	270	\$190,900	\$51,543,000

## Licensing trends

### Recent L licence valuation

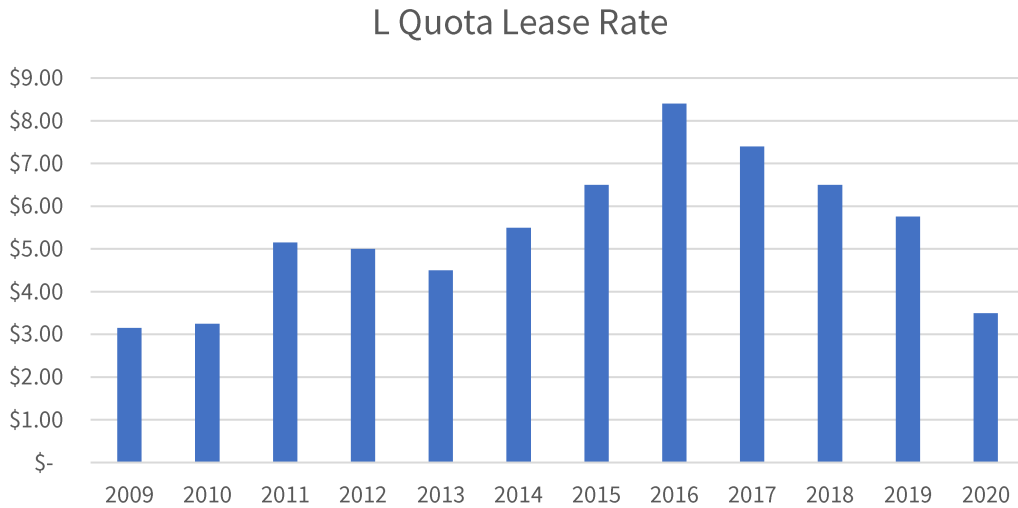


### Recent L quota valuation

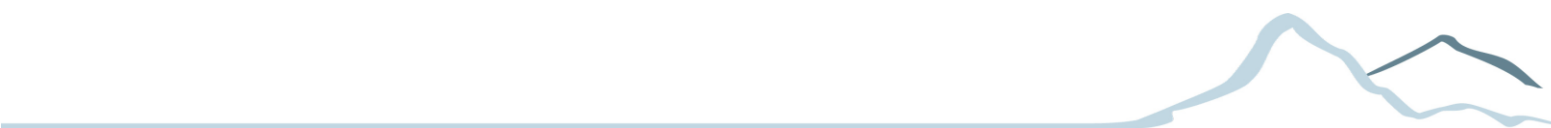
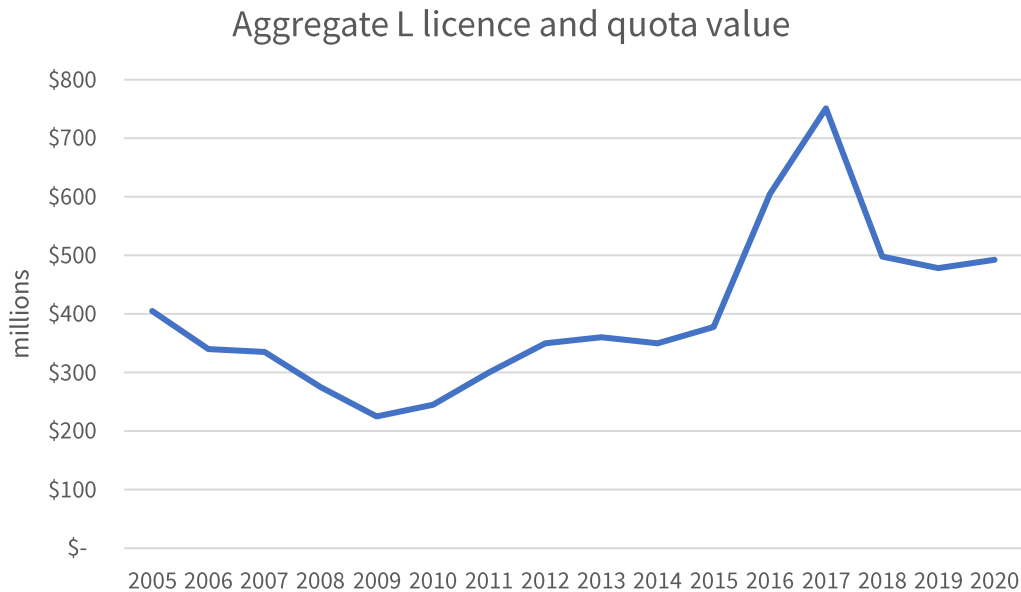


## Recent halibut quota lease rates

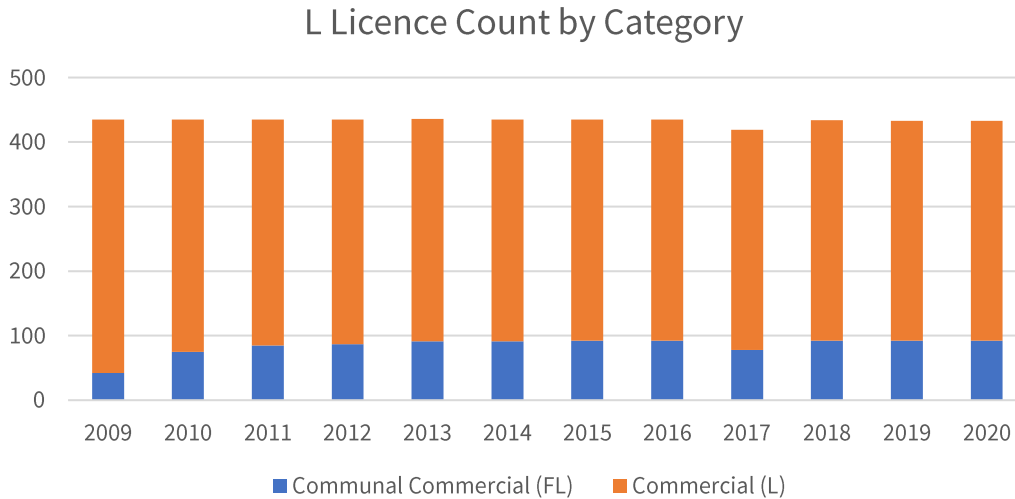
Halibut quota lease rates varied greatly over the year due to COVID-19. We uncovered rates in the range of \$3.00-\$5.00/lb, however towards the end of the season lease rates were in the range of \$3.50-\$3.75/lb.



## Aggregate value of L licences and halibut quota (\$ million by year)



## L licence counts by category



## Outlook/commentary

The outlook for halibut licence and quota value is summarized as follows:

- Industry experts commented that value of halibut quota peaked in 2017 at \$120-\$130/lb and has since stabilized in the range of \$90-\$95/lb.
- COVID-19 was expected to depress quota prices this year, but prices ended up rising after experiencing an initial dip in prices to as low as ~\$80/lb. Although the past year was tough due to the closure of restaurant and food service industries, halibut is viewed as a resilient fishery due to the low cost of capital and a solid rate of return (4.9%). It was perceived to be a success story during COVID-19.
- The direct-to-consumer market opened up new avenues to sell popular fish such as halibut, but reaching this market still requires significant value-added to make the product consumer friendly.
- Prior to COVID-19 as much as 80% of halibut went to restaurants and food service industries, meaning that buyers and processors faced the large challenge of creating new markets for their product.



# GROUND FISH – Sablefish (K)

## Background to valuation

General	
Licence designation	K
Nature of Licence	vessel-based
# commercial licences	41
# communal commercial licences	7
Area licensing?	no
Stacking?	no
Competitive or quota mgmt.?	quota

Valuation Parameters	
Licence	per foot
Quota	per lb (j-cut)
Vessels	yes
Amount of trading activity in category this year	low
# transactions underlying valuation	~ 5 (quota) ~ 0 (licence)
Confidence in current year valuation	low





## Current valuation

Licence and quota value as of December 31, 2020

Category	# of Licences / lbs of Quota	Value/Licence Value/Quota (j-cut)	Value/Licence	Total Value
<b>K Licence - Commercial</b>	41	\$6,768/ft	\$400,000	\$16,400,000
<b>FK Licence - Communal commercial</b>	7	n/a	n/a	n/a
<b>Sablefish Quota</b>	3,991,943 lbs	\$84/lb	n/a	\$335,323,212
<b>Total Value (Licences and Quota)</b>	n/a	n/a	n/a	\$351,723,212

## Valuation comments

- Average licence value per foot is based on a \$400,000 value per licence and average vessel length of 59.1 feet.
- No licence transactions were uncovered in 2020 so the past year's licence value of \$400,000 was used. One industry expert noted that the market price is likely close to this value.
- Quota prices ranged from \$80-\$87/lb. Industry experts noted the market price is closer to \$85, but will perhaps be lower going into next season.

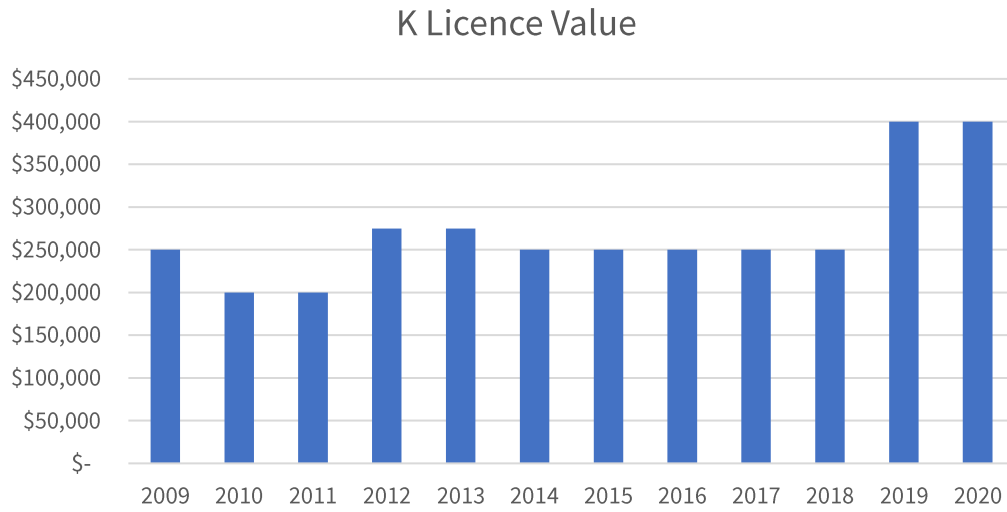
## Vessel value

Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. The number of vessels has been updated based on DFO's *Pacific Region Commercial Fishing Licences Database*. However, we have only included vessels for which a vessel age was provided. As such, aggregate value represents only a portion of the total fleet. For more information about the limitations of this analysis please refer to the Valuation Methodology.

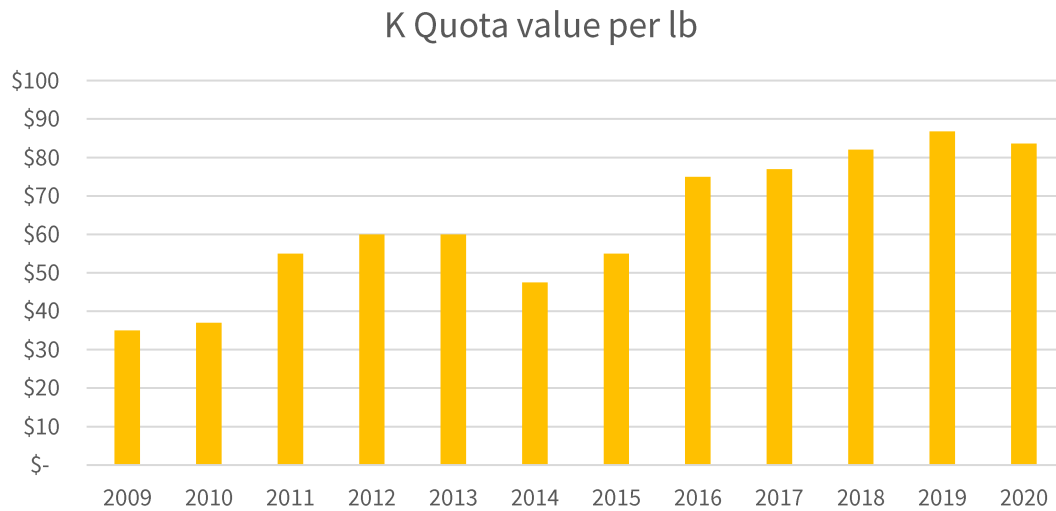
Sablefish	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	24	\$204,800	\$4,915,200
<b>Modern</b>	13	\$665,600	\$8,652,800
<b>Total</b>	37	\$374,600	\$13,860,200

## Licence and quota trends

### Recent K licence valuation



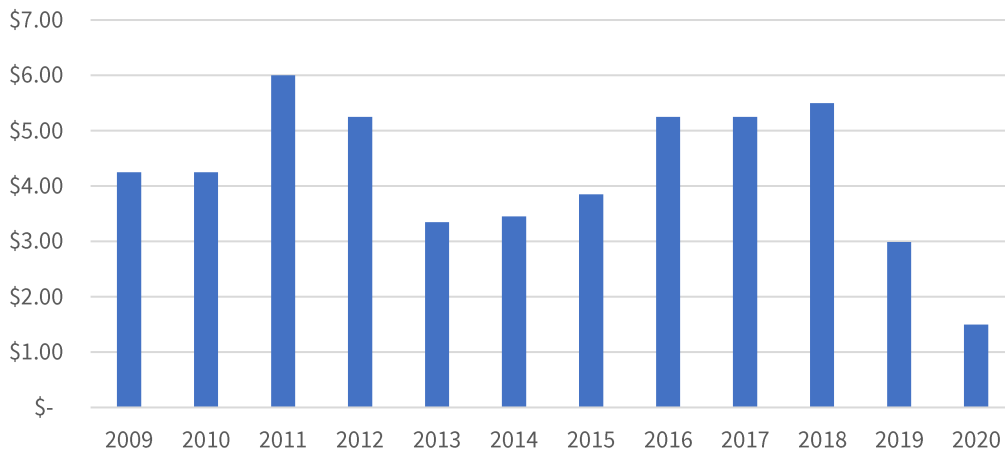
### Recent K quota valuation



## Recent K quota lease rates

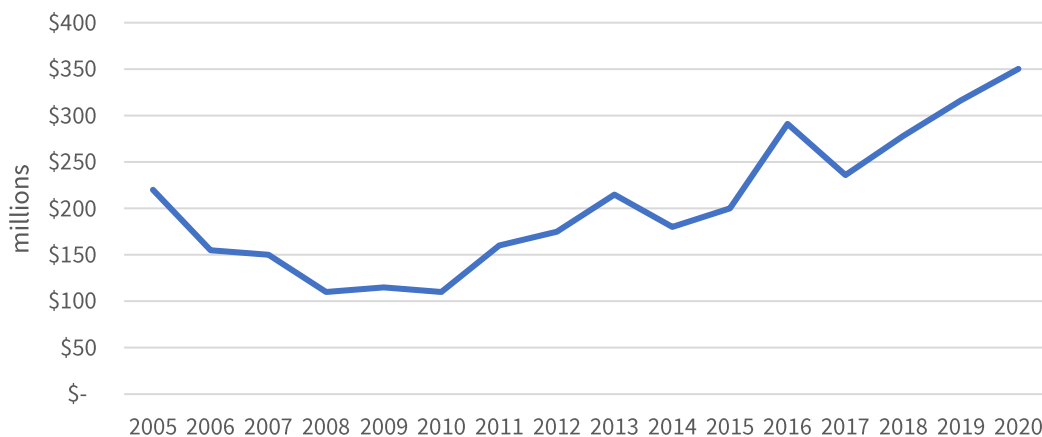
The average quota lease price was \$1.50/lb, however there was significant variation in prices over the 2020 season as the market adapted to COVID-19 conditions. Lease prices started in the range of \$2.50-\$3.00/lb early in the year, and fell over the summer and fall to reach around \$1.50/lb or even lower. Industry experts commented that lease prices rise and fall with the ex-vessel price of the fish which was also volatile throughout the year as buyers and processors adjusted to restaurant closures and cruise ship bans, previously key markets for sablefish.

### Sablefish quota lease rate per lb (j-cut)

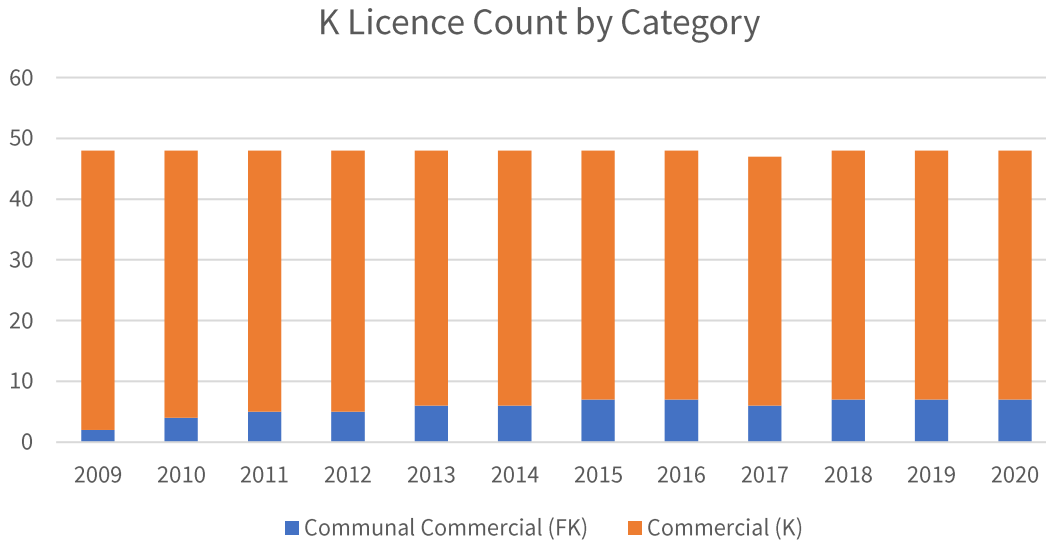


## Aggregate value of K licence and quota (\$ millions by year)

### Aggregate K Licence and Quota Value



## K licence counts by category



## Outlook/commentary

General outlook for sablefish licence and quota values is summarized below:

- There has been minimal licence trading activity with very few market transactions uncovered over the last few years. Industry experts suggested that this is partly due to licence holders wanting to retain them because there are so few available.
- Sablefish quota is perceived to have good fundamentals (due to a good stock of fish, good product, and a diversified, international market), however, due to the high cost of capital and difficulty in catching the fish, quota is losing favour as an investment and quota prices fell slightly in 2020. This is also reflected strongly in depressed quota lease rates.
- Sablefish markets were significantly impacted by COVID because it is generally a fish consumed in restaurants rather than at home. COVID also brought a shift in buyer preferences as smaller fish became more popular, rather than larger fish, which have been historically more popular.



# GROUND FISH – Groundfish trawl (T)

## Background to valuation

General	
Licence designation	T
Nature of Licence	vessel-based
# commercial licences	135
# communal commercial licences	4
Area licensing?	no
Stacking?	no
Competitive or quota mgmt.?	quota

Valuation Parameters	
Licence	per foot
Quota	per lb
Vessels	yes
Amount of trading activity in category this year	low
# transactions underlying valuation	~ 0 (licence) ~ 0 (quota)
Confidence in current year valuation	low



## Current valuation

Licence and quota value as of December 31, 2020

Category	# of Licences / lbs of Quota	Value/Licence Value/Quota	Avg. Licence	Total Value
<b>T Licence – Commercial</b>	135	\$672/ft	\$41,000	\$5,535,000
<b>FT Licence- Communal commercial</b>	4	n/a	n/a	n/a
<b>Uncut quota</b>	93,279,778 lbs	\$1.70/lb	n/a	\$158,575,623
<b>Hake (gulf and offshore)</b>	200,869,542 lbs	\$0.20/lb	n/a	\$40,173,908
<b>Total value</b>	450,293,574 lbs	n/a	n/a	\$204,284,531

## Valuation comments

- The average licence value per foot is based on a \$41,000 average licence value and an average vessel length of 61 feet, equalling \$672 per foot. No licence transactions were uncovered and the licence value from the previous year was used. No transactions were uncovered for hake quota, though anecdotal reports suggest that the price has increased over the years and reached \$1.50/lb in 2020.
- Smaller T licences in the \$40,000-\$50,000 range are often purchased just to hold quota whereas larger ones in the \$200,000-\$400,000 range are sought after for larger holding caps and sold at a premium. Industry informants expressed that there is currently low demand for T licences, which makes it difficult to estimate a market price.

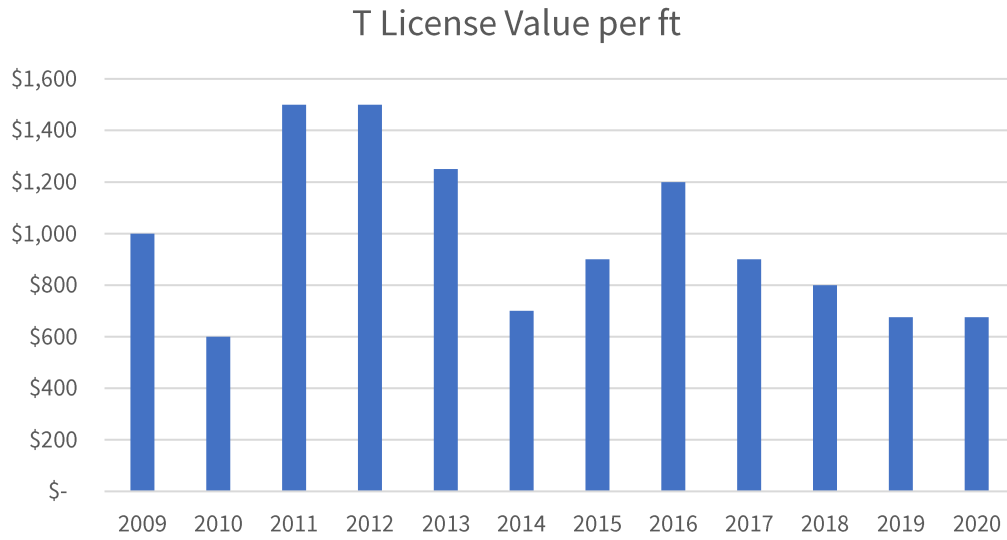
## Vessel value

Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. The number of vessels has been updated based on DFO's *Pacific Region Commercial Fishing Licences Database*. However, we have only included vessels for which a vessel age was provided. As such, aggregate value represents only a portion of the total fleet. For more information about the limitations of this analysis please refer to the Valuation Methodology.

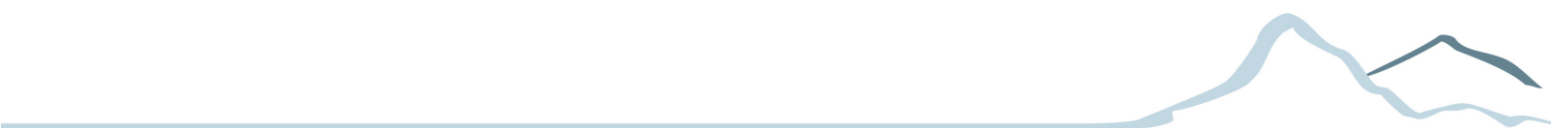
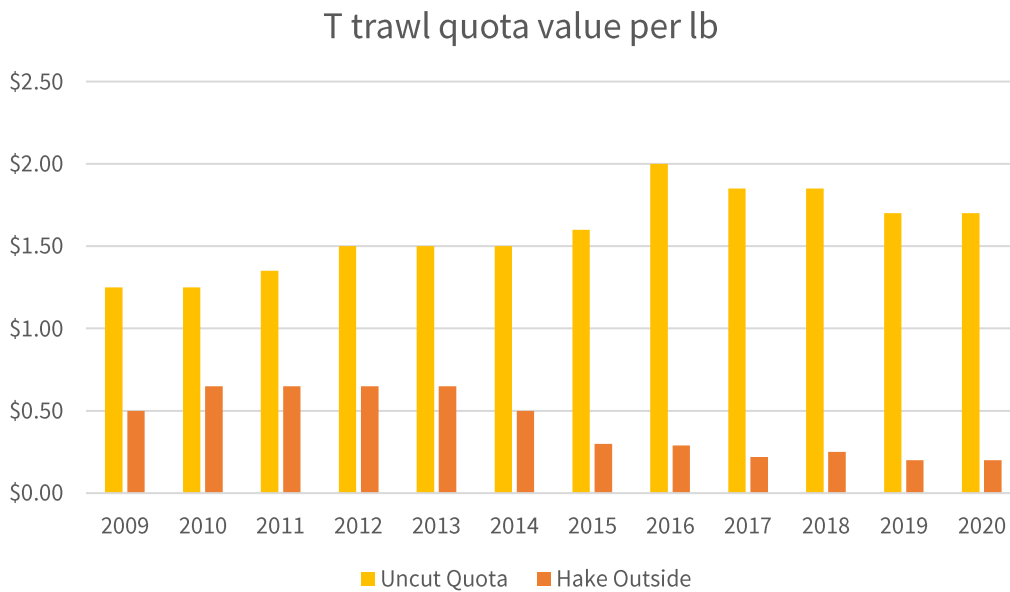
Groundfish trawl	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	70	\$450,500	\$31,535,000
<b>Modern</b>	36	\$1,408,000	\$50,688,000
<b>Total</b>	106	\$778,800	\$82,552,800

## Licence and quota trends

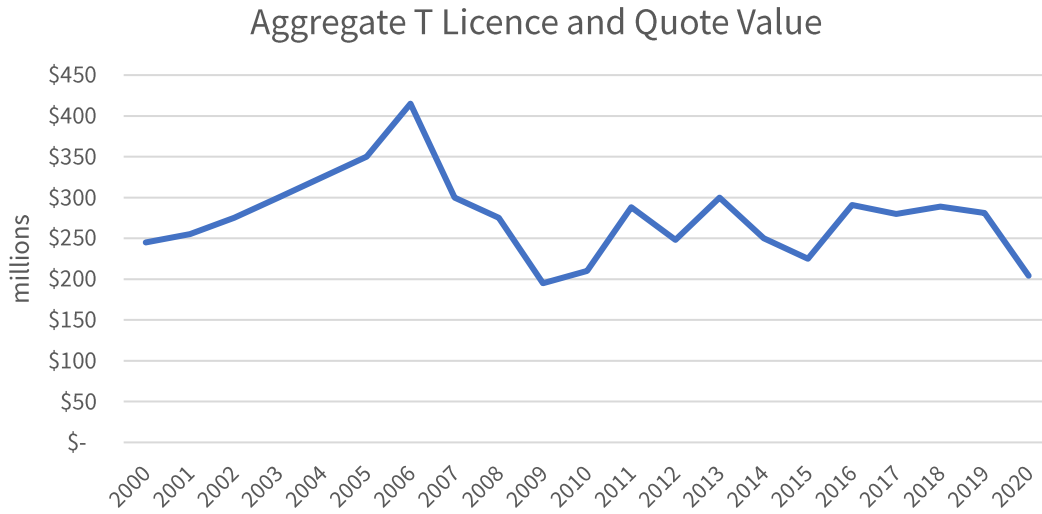
### Recent T licence and trawl quota valuation



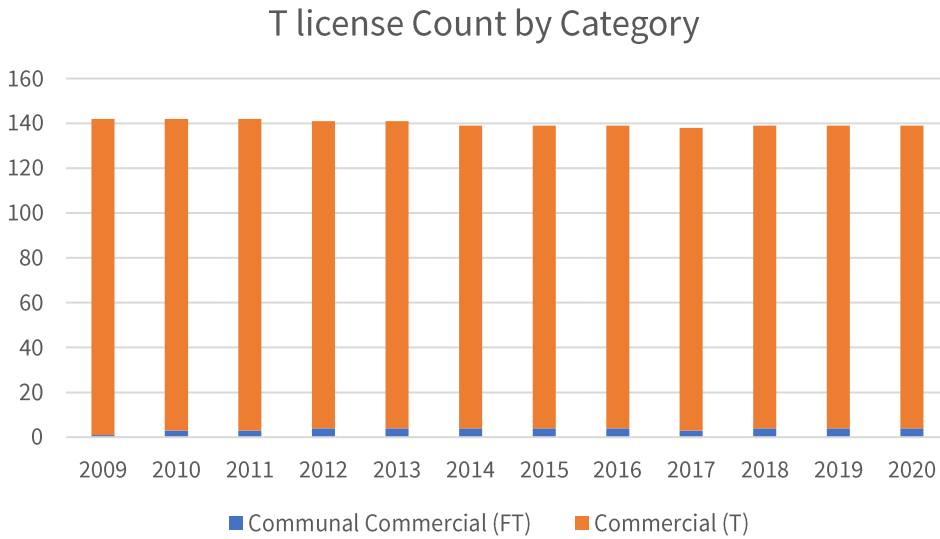
### Recent T trawl quota valuation



### Aggregate value of T licence and trawl quota (\$ millions by year)

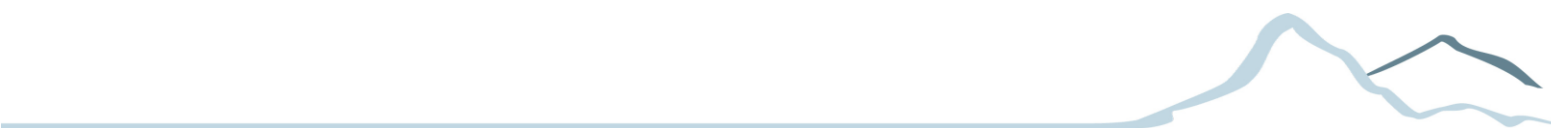


### T licence counts by category



### Recent T licence and quota lease rates

No licence or quota lease transactions were uncovered.





## Outlook/commentary

General outlook regarding groundfish trawl valuation is summarized below:

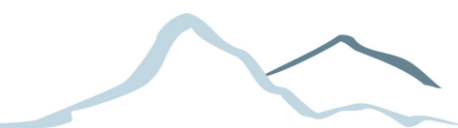
- The specific holding cap assigned to each T licence greatly affects its value.
- Larger vessels that also hold schedule II licences tend to trade higher because of the opportunity to fish tuna.
- Large licences on large vessels are rare because they are on vessels that cannot easily serve other purposes. These licences are difficult to evaluate because there are no new licences being created and they already hold a large portion of the TAC.

# GROUND FISH – Rockfish hook and line (ZN)

## Background to valuation

General	
Licence designation	ZN
Nature of Licence	party-based
# commercial licences	210
# communal commercial licences	51
Area licensing?	yes
Stacking?	no
Competitive or quota mgmt.?	quota

Valuation Parameters	
Licence	per licence
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	low
# transactions underlying valuation	~ 1 (inside) ~ 5 (outside)
Confidence in current year valuation	low



## Current valuation

Licence value as of December 31, 2020

Category	# of Licences	Value/Licence	Total Value
<b>ZN inside licence – commercial</b>	52	\$37,500	\$1,950,000
<b>ZN outside licence – commercial</b>	158	\$252,000	\$39,816,000
<b>ZN Licence - communal commercial</b>	51	n/a	n/a
<b>ZN/FZN total</b>	261	n/a	\$41,766,000

## Valuation comments

- There tends to be minimal movement of ZN licences.
- ZNO licence values ranged from \$250,000-\$260,000.
- ZNI licence values ranged from \$30,000-\$45,000.

## Vessel value ZN outside

Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. For this fishery, we were not able to update the number of vessels as this information was not available from DFO's *Pacific Region Commercial Fishing Licences Database*. As such, the vessel numbers below have been taken from last year's report. For more information about the limitations of this analysis please refer to the Valuation Methodology.

ZN Outside	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	80	\$139,300	\$11,144,000
<b>Modern</b>	44	\$292,900	\$12,887,600
<b>Total</b>	124	\$193,800	\$24,031,200



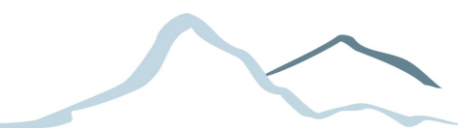
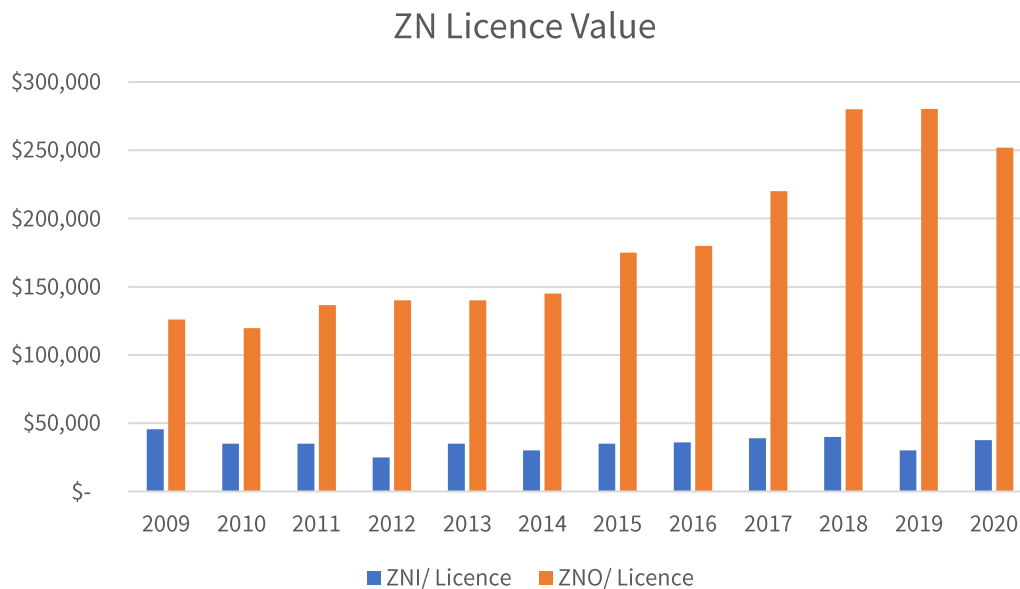
## Vessel value ZN inside

Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. For this fishery, we were not able to update the number of vessels as this information was not available from DFO's *Pacific Region Commercial Fishing Licences Database*. As such, the vessel numbers below have been taken from last year's report. For more information about the limitations of this analysis please refer to the Valuation Methodology.

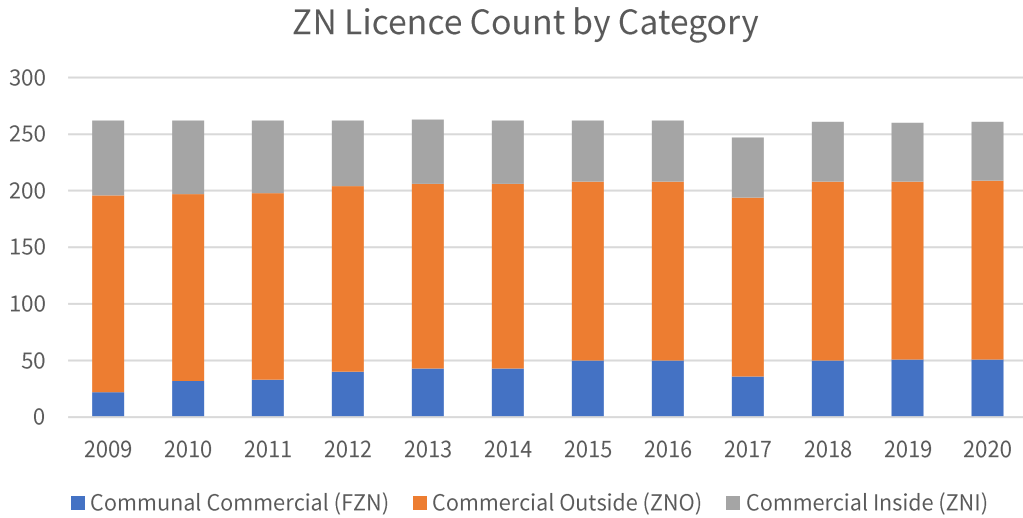
ZN Inside	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	3	\$76,800	\$230,400
<b>Modern</b>	5	\$200,700	\$1,003,500
<b>Total</b>	8	\$154,200	\$1,233,600

## Licensing trends

### Recent ZN licence valuations



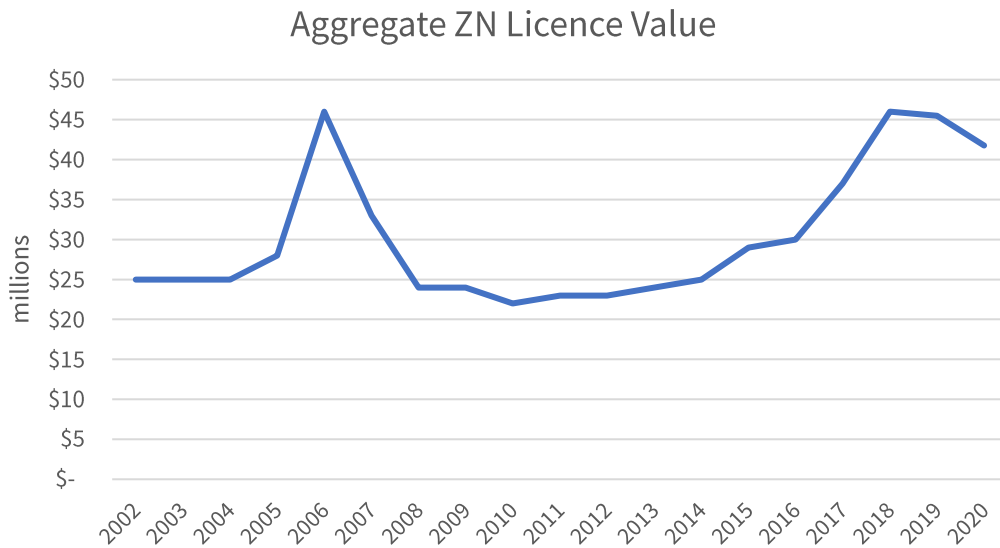
## ZN licence counts by category



## Recent ZN lease rates

Lease prices for ZNI licences were approximately \$2,150. No ZNO lease prices were uncovered.

## Aggregate value of ZN licences (\$ millions by year)



## Outlook/commentary

Rockfish is viewed as valuable due to its role as an enabler for directed fisheries (particularly halibut). Given the potential rockfish by-catch in other groundfish fisheries, it is essential to have access to rockfish quota to fish directed species. Given this, it is viewed as a licence with many advantages and few downsides. COVID-19 does not seem to have impacted this licence value significantly.

## GROUND FISH – Lingcod and dogfish

The lingcod and dogfish fisheries are managed under an IVQ program and do not have dedicated licence categories. However, they can be executed under the authority of any vessel-based licence. This makes these fisheries difficult to estimate for valuation purposes.

### Lingcod

Seven lingcod quota transactions were uncovered for this report with values averaging around \$12/lb.

*Quota value as of December 31, 2020*

Category	Lbs of quota	Value	Total Value
Lingcod quota (H & L)	2,574,996	\$12/lb	\$30,899,954

- Lingcod leases in the hook and line fishery declined from past year's prices of \$0.30-\$0.40/lb to approximately \$0.25/lb this year.
- Quota prices have declined from a high of \$15/lb a few years ago to current prices in the range of \$11/lb. Because some of the quota is still unfished, it may still be overvalued.
- COVID-19 does not appear to have affected the trajectory of quota prices significantly.

### Dogfish

Three dogfish quota transactions were uncovered for this report with values averaging around \$0.11/lb.

*Quota value as of December 31, 2020*

Category	Lbs of quota	Value	Total Value
Dogfish quota (H & L)	20,987,982	\$0.11/lb	\$2,308,678

- Dogfish continues to see low interest from fishers and there does not appear to be a thriving market for the quota. Dogfish is usually caught as bycatch in the halibut and hake fisheries.
- There is no market for leasing dogfish quota.

# SHELLFISH – Prawn trap (W)

## Background to valuation

General	
Licence designation	W
Nature of Licence	vessel-based
# commercial licences	185
# communal commercial licences	61
Area licensing?	no
Stacking?	yes
Competitive or quota mgmt.?	competitive

Valuation Parameters	
Licence	per foot
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	med
# transactions underlying valuation	~8
Confidence in current year valuation	med





## Current valuation

Licence value as of December 31, 2020

Category	# of Licences	Value/Foot	Avg Value/Licence	Total Value
<b>W Licence</b>	185	\$22,071	\$810,000	\$149,850,000
<b>FW Licence - Communal commercial</b>	61	n/a	n/a	n/a

## Valuation comments

- Average licence value per foot is based on information from industry experts. Average licence value is based on an average vessel length of 36.7 feet.
- Smaller licences are often leased and stacked on larger vessels, which allows the vessel to fish an additional 200 traps on top of the 300 traps allocated to the first (non-stacked) prawn licence.
- When smaller licences are sold and stacked onto larger vessels, the licences become married and cannot be sold and put on smaller vessels.
- Historically, licences have been valued by vessel length; however, industry experts have stated that with smaller, more efficient speedboats, vessel length is becoming less of a determinant of price. These boats are able to transport live product faster than longer, bulkier vessels and typically target local and dock sales.
- There is a perception that the market is still frothy, and prices may come down in 1-2 years.

## Vessel value

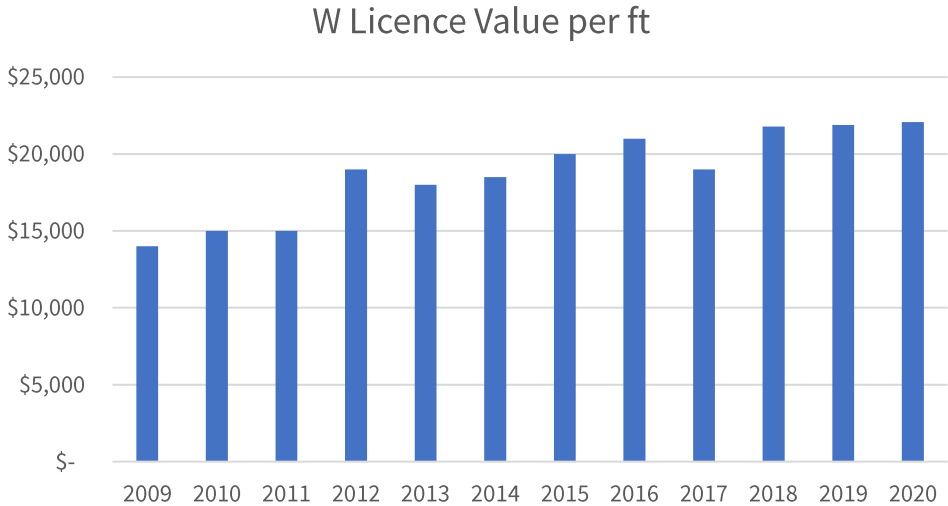
Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. The number of vessels has been updated based on DFO's *Pacific Region Commercial Fishing Licences Database*. However, we have only included vessels for which a vessel age was provided. As such, aggregate value represents only a portion of the total fleet. For more information about the limitations of this analysis please refer to the Valuation Methodology.

Prawn by trap	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	61	\$165,900	\$10,119,900
<b>Modern</b>	69	\$332,800	\$22,963,200
<b>Total</b>	130	\$258,900	\$33,657,000



# Licensing trends

## Recent W licence valuation

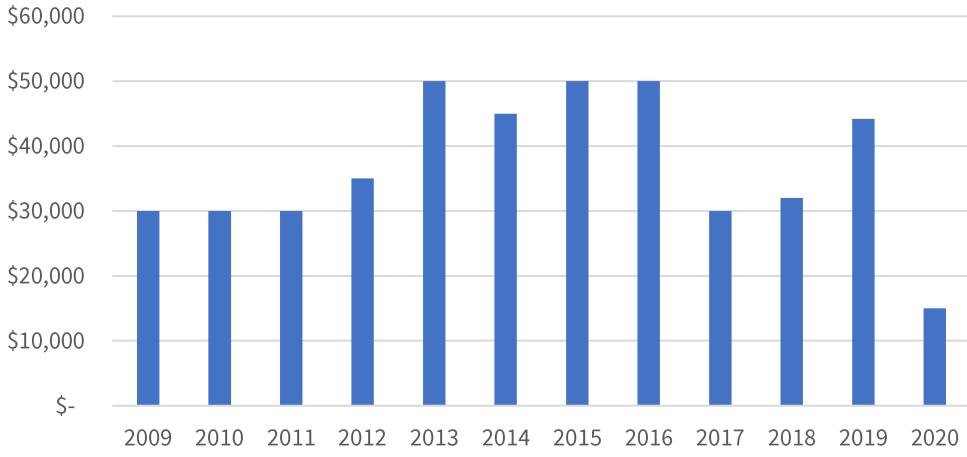


## Recent W licence lease rates

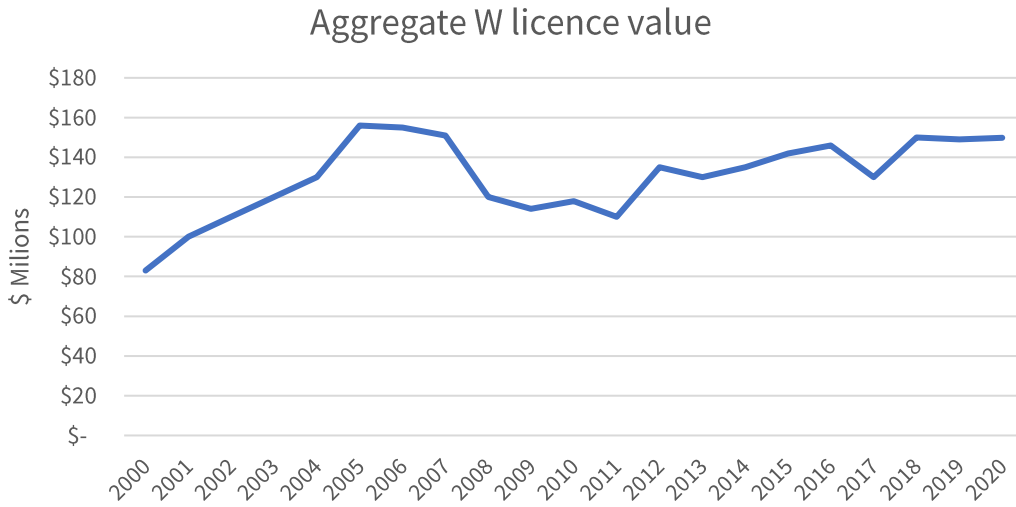
The average lease price for a W licence was approximately \$15,000 and is based on four transactions. Lease rates have substantially fallen from the previous year. Much of this drop can be attributed to COVID-19 and its impacts on the export market.



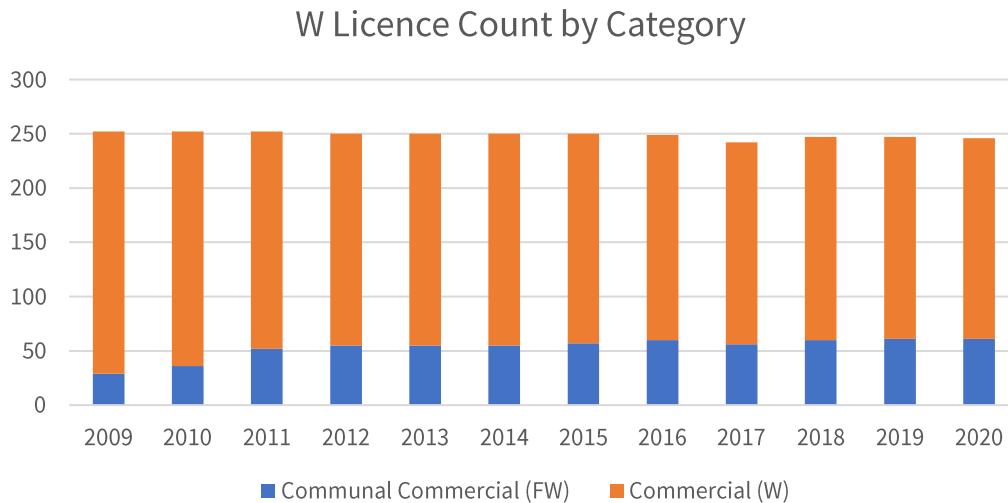
### W Licence Lease Rate



### Aggregate value of W licences (\$ millions by year)



## W licence count by category



## Outlook/commentary

- Licence values in the prawn trap fishery have declined slightly over the past year, although not substantially.
- More nimble, high-speed boats are able to catch and transport live prawns more quickly, though the size of the catch per year is smaller. These high-speed boats may be driving up licence prices at shorter vessel lengths.
- This shift is changing the long-term dynamics of the industry, as the live fishery is now eating into the frozen/export market, the average age of fishers is going down, and boats are getting faster.
- Despite decreased demand from Asian markets, domestic demand has picked up and expected to become a larger part of the market share.
- Early in the pandemic there were some concerns of large unsold inventories of frozen prawns that were destined for the export market, particularly China. However, these fears were overstated and prices have since fallen, which has helped keep inventory at a reasonable level.

# SHELLFISH – Crab (R)

## Background to valuation

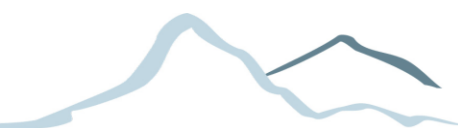
General	
Licence designation	R
Nature of Licence	vessel-based
# commercial licences	187
# communal commercial licences	33
Area licensing?	7 areas
Stacking?	no
Competitive or quota mgmt.?	competitive

Valuation Parameters	
Licence	per foot
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	low
# transactions underlying valuation	~ 2
Confidence in current year valuation	low

## Current valuation

Licence value as of December 31, 2020

Category	# of Licences	Value/Foot	Avg Value/Licence	Total Value
R Licence - Commercial	187	\$35,200	\$1,100,000	\$205,700,000
FR Licence - Communal commercial	33	n/a	n/a	n/a



## Valuation comments

- Average licence value per foot is based on an average vessel length of 31.25 feet.
- Licences vary by length with longer licences holding a higher total value but a lower value per foot.

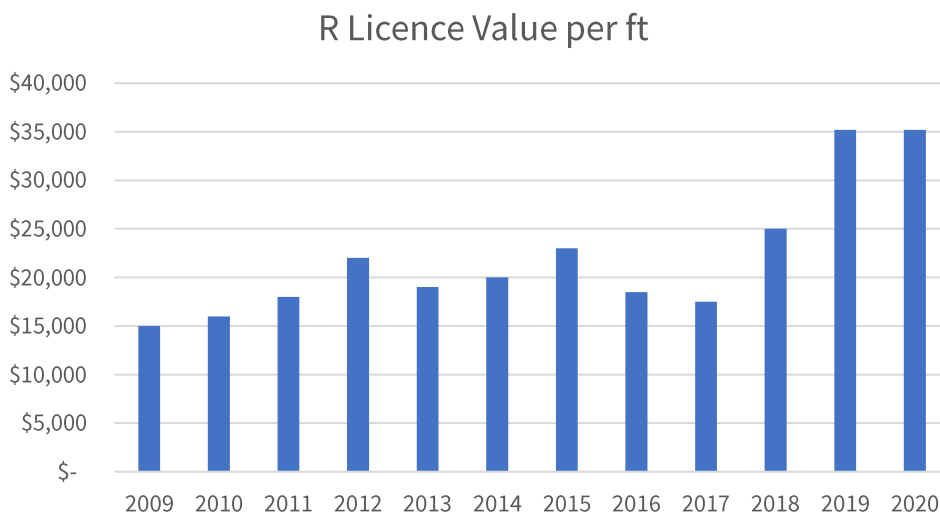
## Vessel value

Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. The number of vessels has been updated based on DFO’s *Pacific Region Commercial Fishing Licences Database*. However, we have only included vessels for which a vessel age was provided. As such, aggregate value represents only a portion of the total fleet. For more information about the limitations of this analysis please refer to the Valuation Methodology.

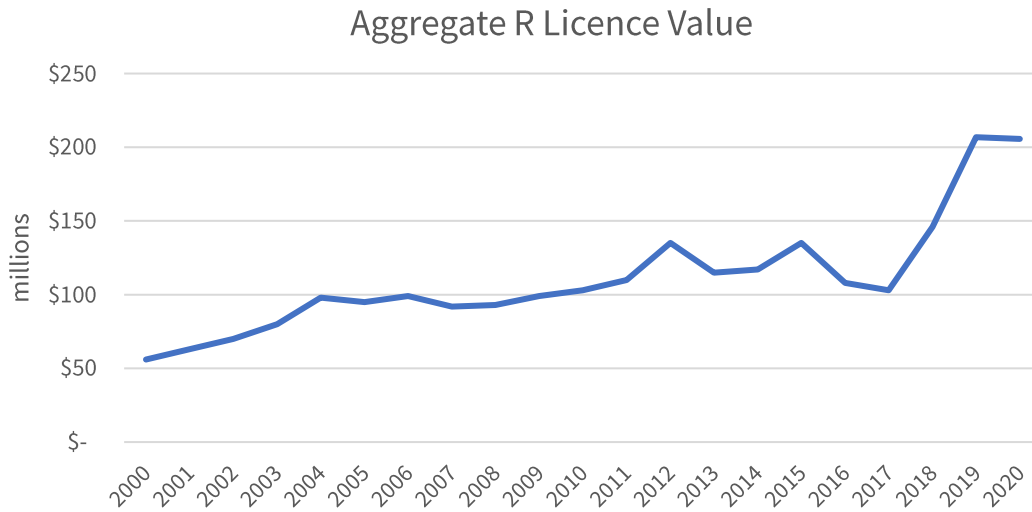
Category	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	25	\$147,500	\$3,687,500
<b>Modern</b>	98	\$358,400	\$35,123,200
<b>Total</b>	123	\$316,900	\$38,978,700

## Licensing trends

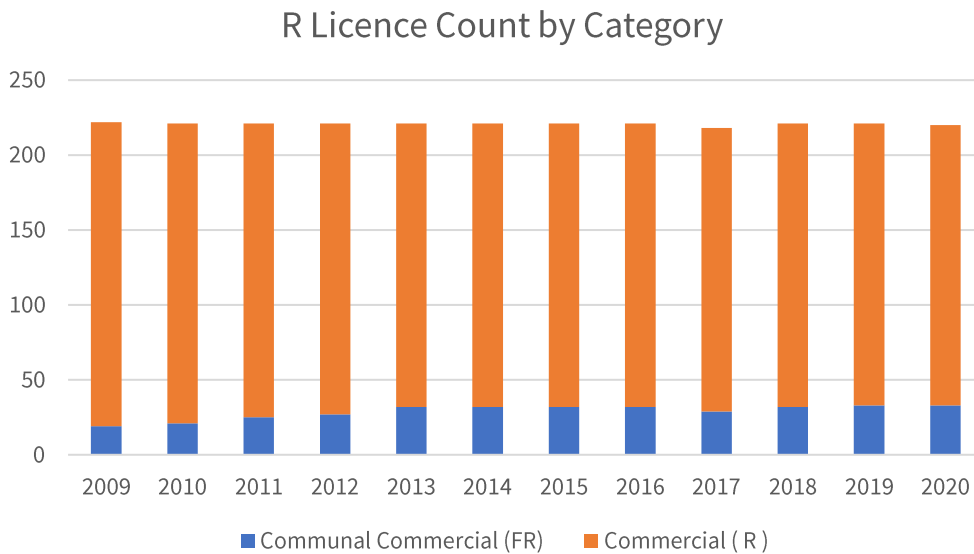
### Recent R licence valuation



### Aggregate value of R licences (\$ millions by year)



### R licence counts by category



### Recent R licence lease rates

R licences are leased in the range of \$23,750 per licence, or \$760 per foot (assuming a 31.25 ft vessel). However few transactions were uncovered so there is low confidence in this figure.



## Outlook/commentary

General outlook for crab fishery includes the following observations:

- There were few transactions uncovered in our research, which is likely because R licences are difficult to come by. Most people who own them are fishing them.
- COVID-19 significantly impacted the market, particularly live sales to China. This was compounded by the fact that crab is sold live and cannot keep for long without the product being discarded.





# SHELLFISH – Shrimp trawl (S)

## Background to valuation

General	
Licence designation	S
Nature of Licence	vessel-based
# commercial licences	208
# communal commercial licences	26
Area licensing?	no
Stacking?	no
Competitive or quota mgmt.?	competitive

Valuation Parameters	
Licence	per foot
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	low
# transactions underlying valuation	~4
Confidence in current year valuation	med

## Current valuation

*Licence value as of December 31, 2020*

Category	# of Licences	Value/Foot	Avg Value/Licence	Total Value
S Licence - Commercial	208	\$595	\$25,000	\$5,200,000
FS licence - Communal commercial	26	n/a	n/a	n/a



## Valuation comments

- Average licence value is based on a valuation of \$595 per foot and an average vessel length of 42 feet. Prices fell sharply in 2020, however there were few transactions underlying this valuation and it is difficult to anticipate if prices will rebound in future years. This fishery faced some challenges related to at-sea observation, as some fishers did not have enough room on their vessels to have observers on board and maintain social distancing and did not have access to cameras for remote monitoring. We heard that some fishers opted to not fish for this reason.

## Vessel value

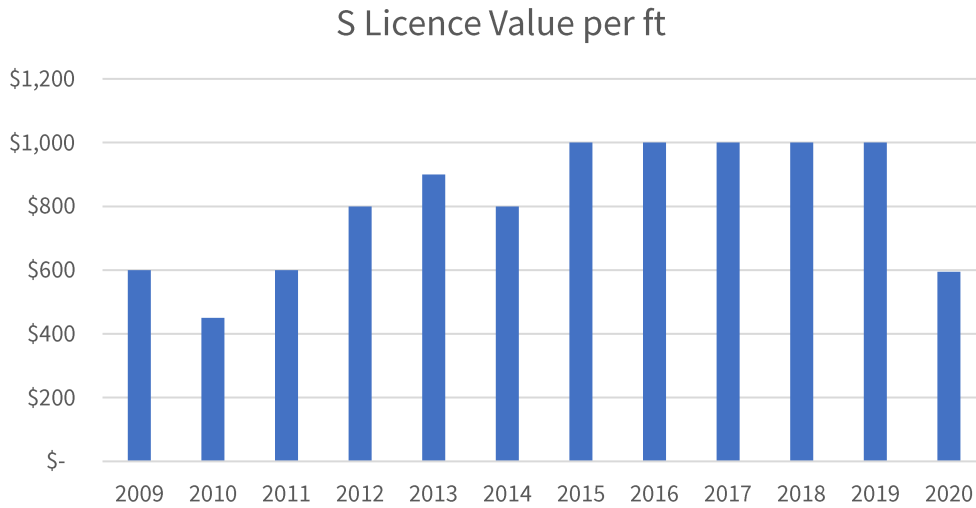
Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. The number of vessels has been updated based on DFO's *Pacific Region Commercial Fishing Licences Database*. However, we have only included vessels for which a vessel age was provided. As such, aggregate value represents only a portion of the total fleet. For more information about the limitations of this analysis please refer to the Valuation Methodology.

Shrimp Trawl	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	119	\$84,980	\$10,112,620
<b>Modern</b>	59	\$171,000	\$10,089,000
<b>Total</b>	178	\$113,200	\$20,149,600

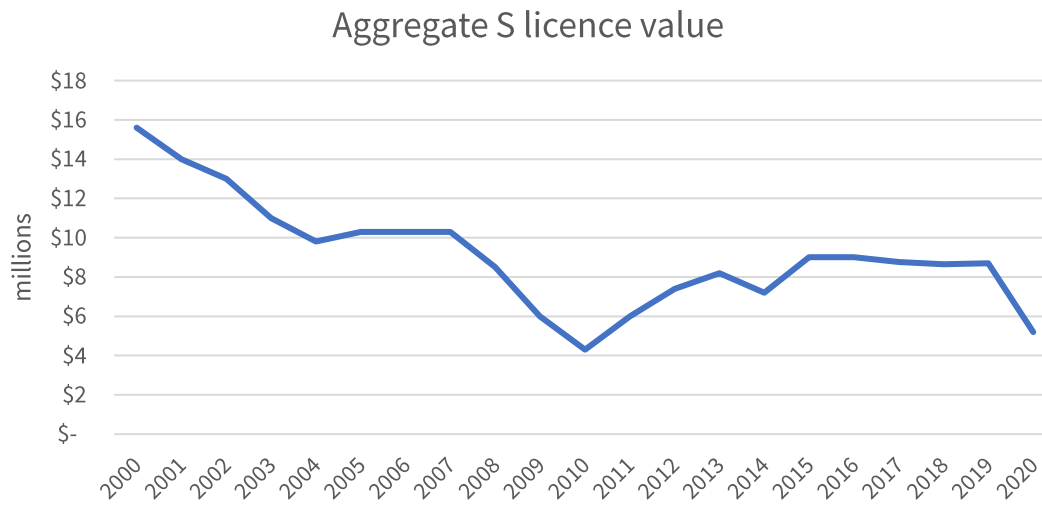


## Licensing trends

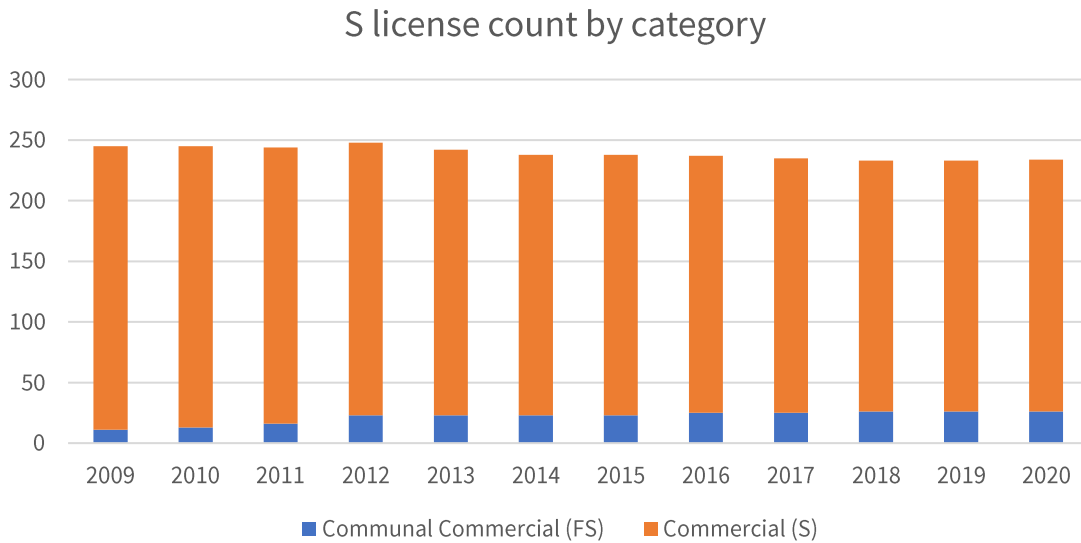
### Recent S licence valuation



### Aggregate value of S licence (\$ millions by year)



## S licence counts by category

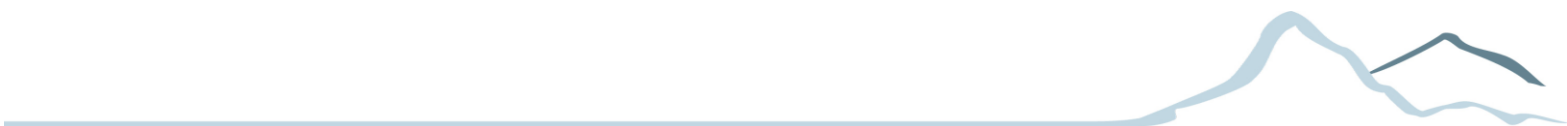


## Recent S licence lease rates

- No lease transactions were uncovered for S licences.

## Outlook/commentary

Industry experts have indicated that shrimp licences are likely to remain near current value for the foreseeable future, with no significant movement in prices or licences. No significant COVID-19 impacts were identified.



# SHELLFISH – Geoduck (G)

## Background to valuation

General	
Licence designation	G
Nature of Licence	vessel-based
# commercial licences	50
# communal commercial licences	5
Area licensing?	3 areas
Stacking?	yes
Competitive or quota mgmt.?	quota

Valuation Parameters	
Licence	per licence
Quota	per block
Vessels	yes
Amount of trading activity in category this year	low
# transactions underlying valuation	~ 2 (quota blocks) ~ 0 (licence, without quota block)
Confidence in current year valuation	low



## Current valuation

Licence and quota value as of December 31, 2020

Category	# of Licences	Value/Licence Value/Block	Total Value
<b>G Licence - commercial</b>	50	\$250,000/licence	\$12,500,000
<b>FG Licence - communal commercial</b>	5	n/a	n/a
<b>Quota blocks</b>	500	\$775,000/block	\$387,500,000
<b>Total</b>	55	n/a	\$400,000,000

## Valuation comments

- No transactions for G tabs (licence only) were uncovered in the valuation, therefore values from the previous year were used. Industry experts and anecdotal reports indicate the value has likely not changed significantly.
- The value of a quota block fell from roughly \$800,000 in 2019 to \$775,000 in 2020, in line with industry experts' opinions that values have fallen.

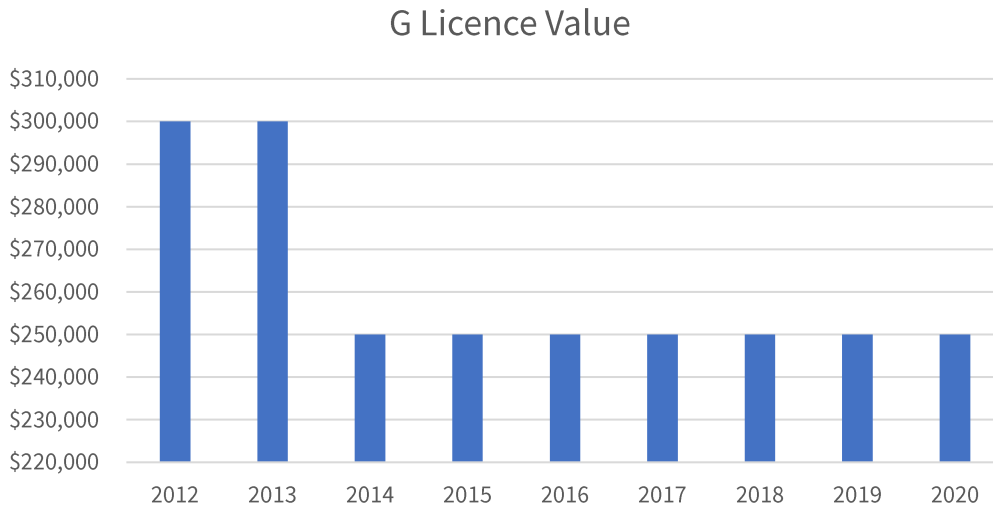
## Vessel value

Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. The number of vessels has been updated based on DFO's *Pacific Region Commercial Fishing Licences Database*. However, we have only included vessels for which a vessel age was provided. As such, aggregate value represents only a portion of the total fleet. For more information about the limitations of this analysis please refer to the Valuation Methodology.

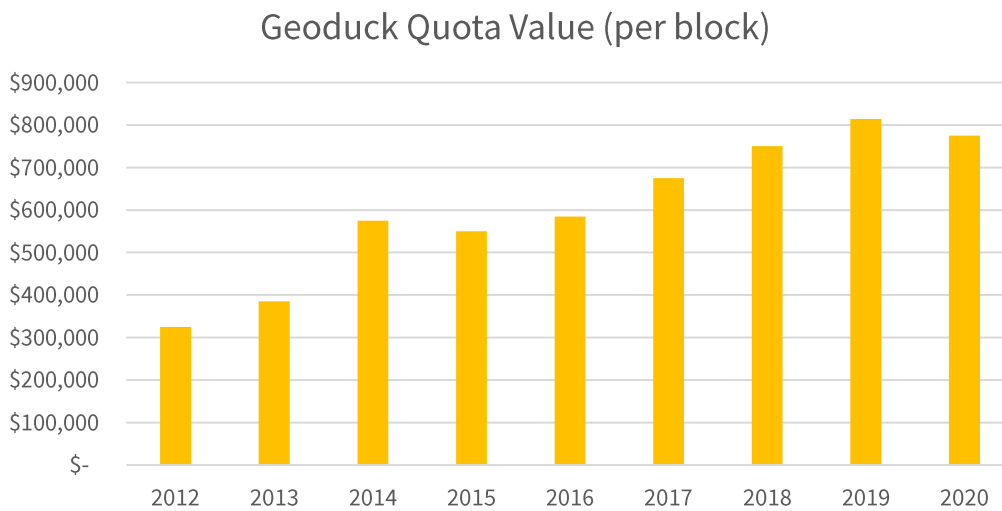
Geoduck	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	16	\$110,600	\$1,769,600
<b>Modern</b>	20	\$270,300	\$5,406,000
<b>Total</b>	36	\$156,000	\$5,616,000

## Licensing trends

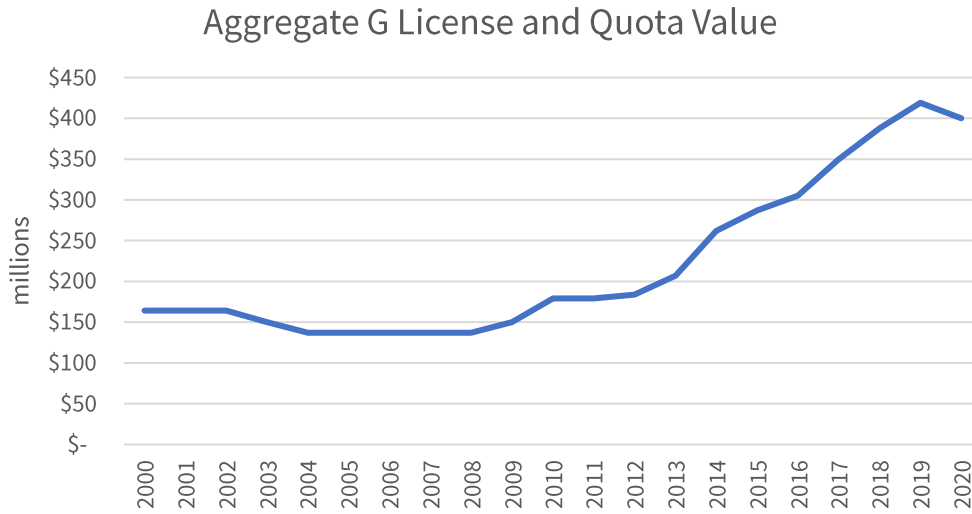
### Recent G licence valuation



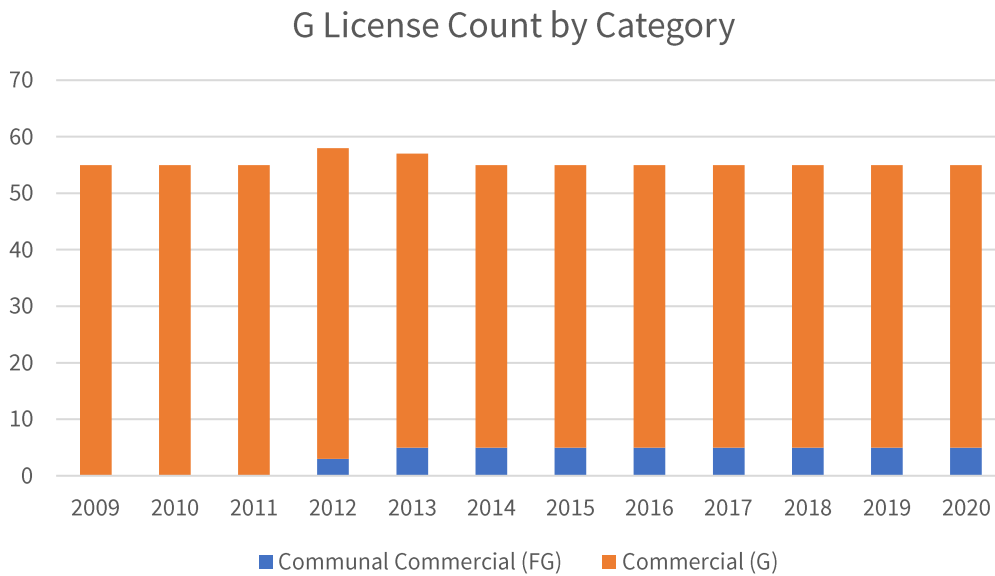
### Recent geoduck quota valuation



## Aggregate value of G licence (\$ millions by year)

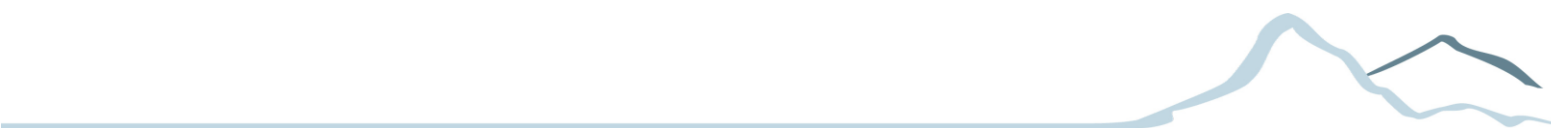


## G licence counts by category



## Recent G licence lease rates

Geoduck quota leased for approximately \$12/lb in 2020. This is a reduction from \$18-\$19/lb in recent years.

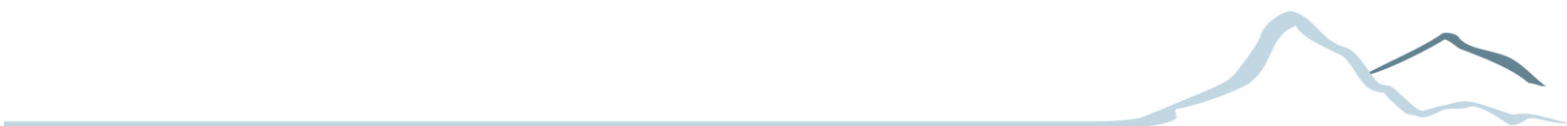




## Outlook/commentary

In general, industry experts report that the geoduck fishery remains stable, based on the following observations:

- Demand remains high for licences and quota access, but the market is very tight as not many people are willing to sell licences.
- Uncertainty in transport/logistics due to COVID-19 has created the largest impact in 2020. A large amount of the product is exported overseas, particularly to Asia, but due to airline restrictions/cancellations, live product shipments are sometimes halted.
- The market was heavily impacted by COVID-19, and the decline in prices may not be permanent.



# SHELLFISH – Sea cucumber (ZD)

## Background to valuation

General	
Licence designation	ZD
Nature of Licence	party-based
# commercial licences	84
# communal commercial licences	0
Area licensing?	4 areas
Stacking?	yes
Competitive or quota mgmt.?	quota

Valuation Parameters	
Licence	per licence
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	low
# transactions underlying valuation	0
Confidence in current year valuation	low



## Current valuation

Licence value as of December 31, 2020

Category	# of Licences	Value/Licence	Total Value
ZD	84	\$1,400,000	\$117,600,000

## Valuation comments

- We were unable to confirm any sea cucumber transactions this year, however industry informants confirmed the price is likely unchanged from 2019.
- It is difficult to place a value on ZD licences as there are a number of people looking to purchase them but few sellers.

## Vessel value

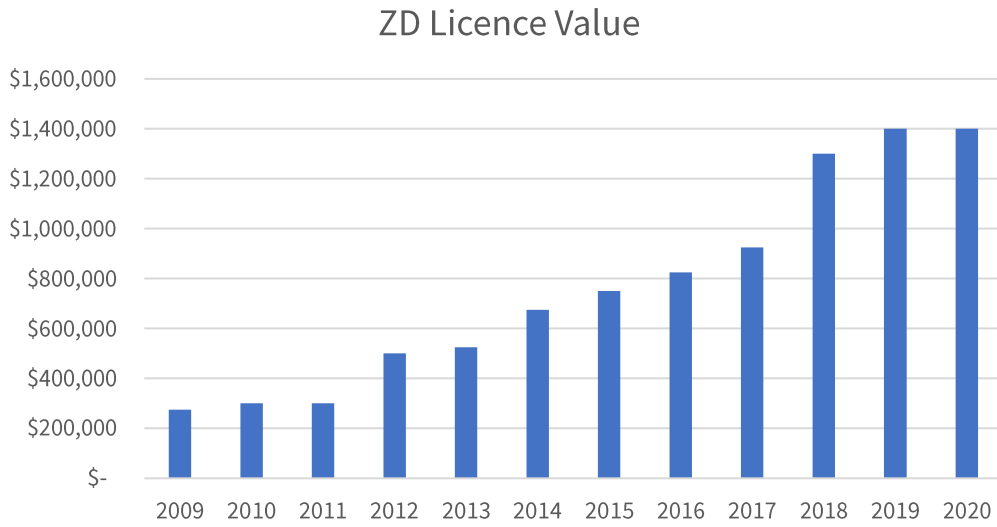
Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. For this fishery, we were not able to update the number of vessels as this information was not available from DFO's *Pacific Region Commercial Fishing Licences Database*. As such, the vessel numbers below have been taken from last year's report. For more information about the limitations of this analysis please refer to the Valuation Methodology.

Sea Cucumber	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	8	\$110,600	\$884,800
<b>Modern</b>	17	\$270,300	\$4,595,100
<b>Total</b>	25	\$219,200	\$5,480,000

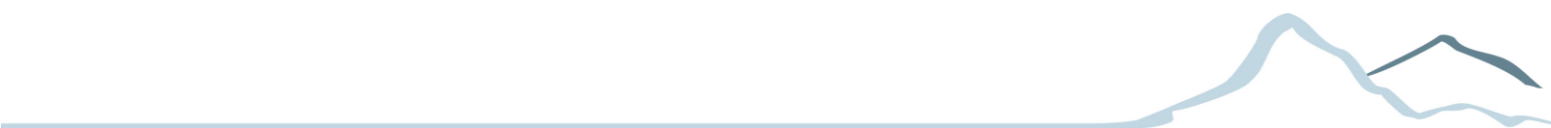
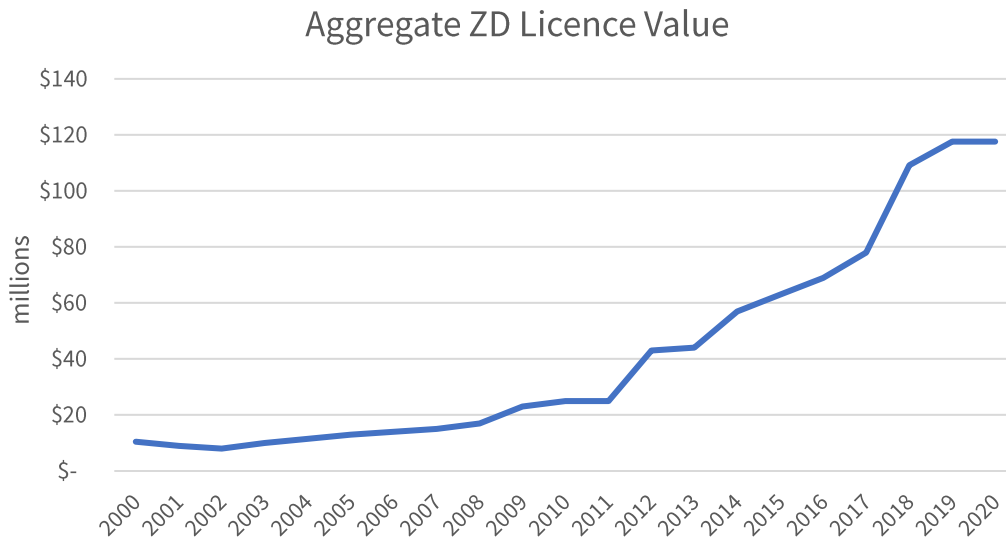


## Licensing trends

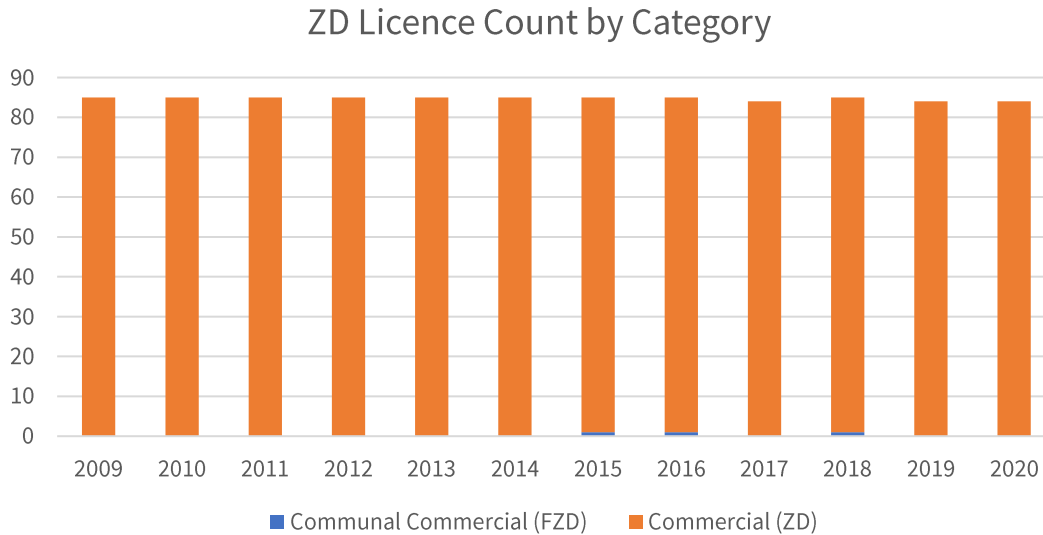
### Recent ZD licence valuations



### Aggregate value of ZD licences (\$ millions by year)



## ZD licence counts by category



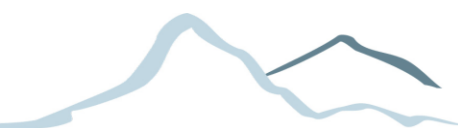
## Recent ZD lease rates

No lease transactions were uncovered for ZD licences, but anecdotal information provides for a lease price between \$70,000 and \$80,000.

## Outlook/commentary

Industry experts made the following general observations on the sea cucumber fishery:

- There was little licence movement in 2020, similar to 2019.
- The market for commercial access to sea cucumbers is notoriously tight and there are many interested buyers but few sellers.
- Consumer market demand for sea cucumber is almost exclusively in Asia.



# SHELLFISH – Red sea urchin (ZC)

## Background to valuation

General	
Licence designation	ZC
Nature of Licence	party-based
# commercial licences	80
# communal commercial licences	30
Area licensing?	2 areas
Stacking?	yes
Competitive or quota mgmt.?	quota

Valuation Parameters	
Licence	per licence
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	low
# transactions underlying valuation	0
Confidence in current year valuation	low



## Current valuation

Licence value as of December 31, 2020

Category	# of Licences	Value/Licence	Total Value
<b>ZC Licence – Commercial</b>	80	\$325,000	\$26,000,000
<b>FZC Licence – Communal Commercial</b>	30	n/a	n/a

## Valuation comments

We were unable to confirm any sea cucumber transactions in 2020. However, industry informants cited values in the range of \$325,000, and there were recent brokerage listings priced at \$340,000 and \$350,000, indicating that the price has increased. We therefore estimate a market value of \$325,000, but with low confidence.

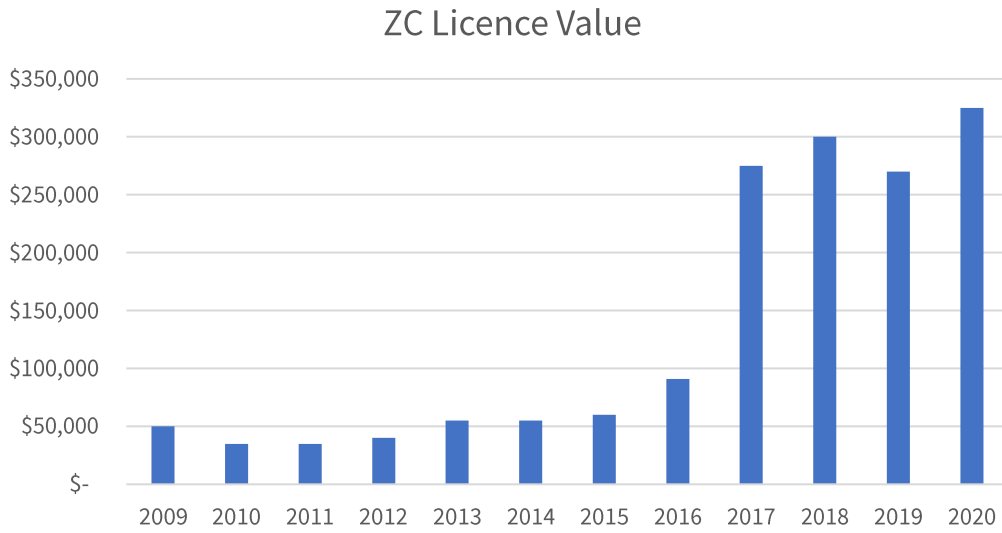
## Vessel value

Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. For this fishery, we were not able to update the number of vessels as this information was not available from DFO's *Pacific Region Commercial Fishing Licences Database*. As such, the vessel numbers below have been taken from last year's report. For more information about the limitations of this analysis please refer to the Valuation Methodology.

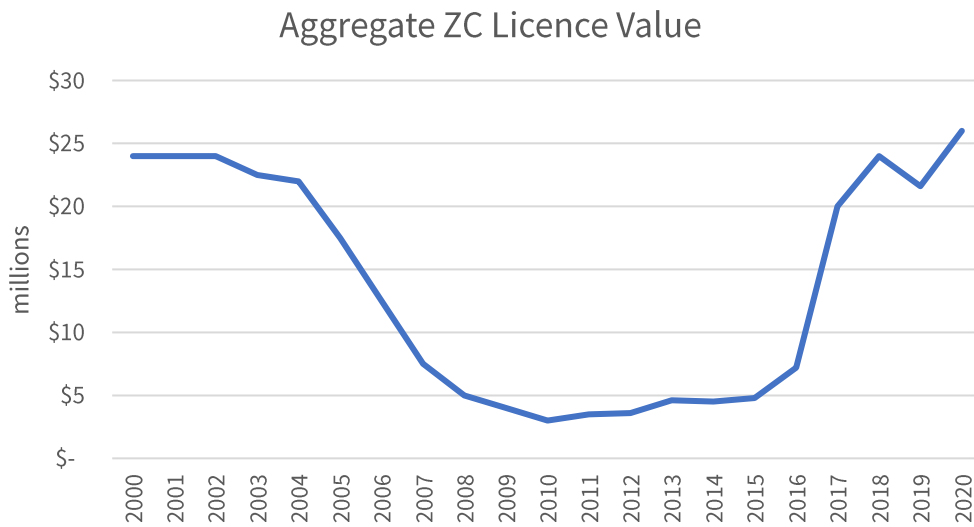
Red Sea Urchin	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	13	\$82,900	\$1,077,700
<b>Modern</b>	20	\$204,800	\$4,096,000
<b>Total</b>	33	\$156,800	\$5,174,400

## Licensing trends

### Recent ZC licence valuation

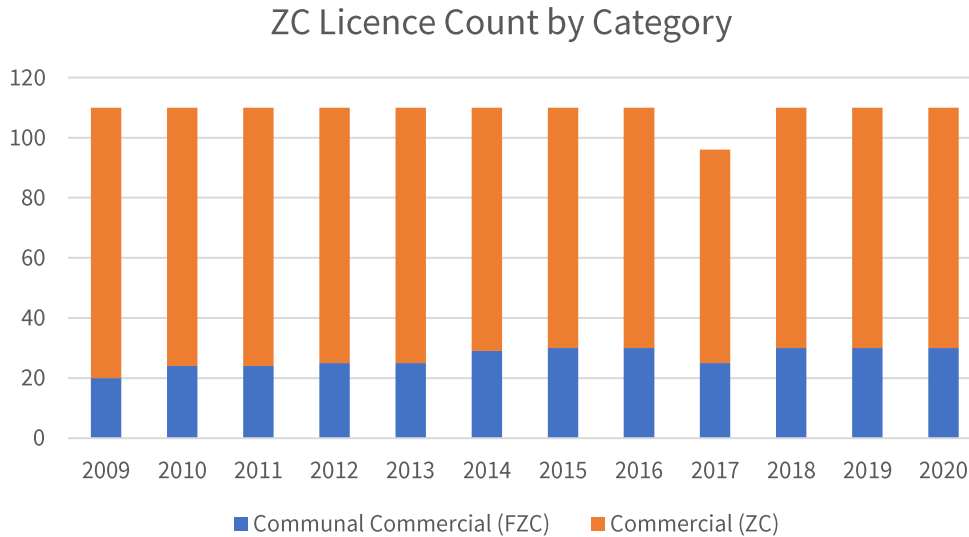


### Aggregate value of ZC licences (\$ millions by year)





## ZC licence counts by category



## Recent ZC lease rates

Two lease transactions were uncovered for ZC licences, placing lease values at an average of \$1,875.

## Outlook/commentary

- Most ZC licences were unfished in 2020, with only a quarter of the quota fished. Because red sea urchin does not have a long shelf life, it was greatly impacted by flight interruptions and COVID lockdowns early in the year, leading licence holders to leave product in the water.
- Prices have dropped from the start of the year, from a high of \$350,000 to the current price of \$325,000, indicating a small impact due to COVID-19.
- The medium-term viability of the fishery is at risk due to sea otters, a protected species, consuming many urchins.



# SHELLFISH – Green sea urchin (ZA)

## Background to valuation

General	
Licence designation	ZA
Nature of Licence	party-based
# commercial licences	48
# communal commercial licences	1
Area licensing?	2 areas
Stacking?	yes
Competitive or quota mgmt.?	quota

Valuation Parameters	
Licence	per licence
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	low
# transactions underlying valuation	0
Confidence in current year valuation	low

## Current valuation

Licence value as of December 31, 2020

Category	# of Licences	Value/Licence \$	Total Value \$
ZA Licence - Commercial	48	80,000	\$3,840,000
FZA Licence - Communal commercial	1	n/a	n/a



## Valuation comments

- There are few sales of green sea urchin licences and we were unable to confirm a transaction in 2020. However, industry informants suggest that the value of a licence has fallen from \$100,000 to around \$80,000.

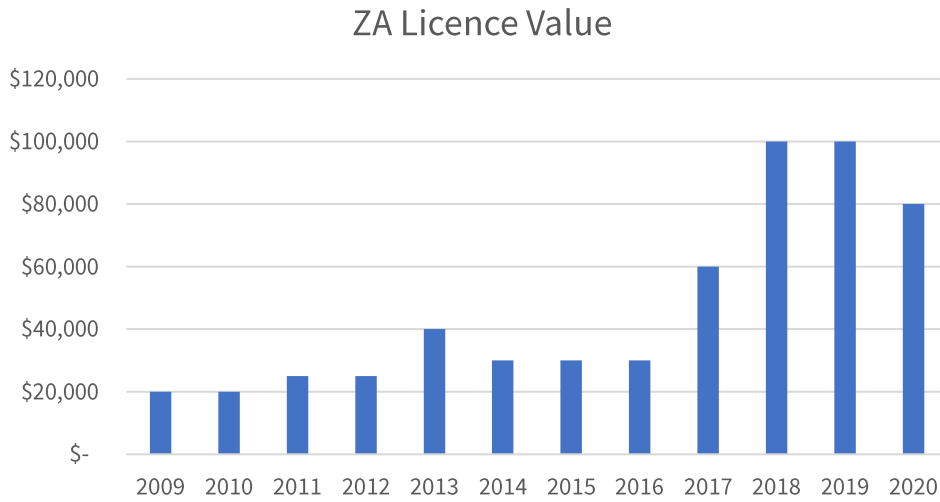
## Vessel value

Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. For this fishery, we were not able to update the number of vessels as this information was not available from DFO's *Pacific Region Commercial Fishing Licences Database*. As such, the vessel numbers below have been taken from last year's report. For more information about the limitations of this analysis please refer to the Valuation Methodology.

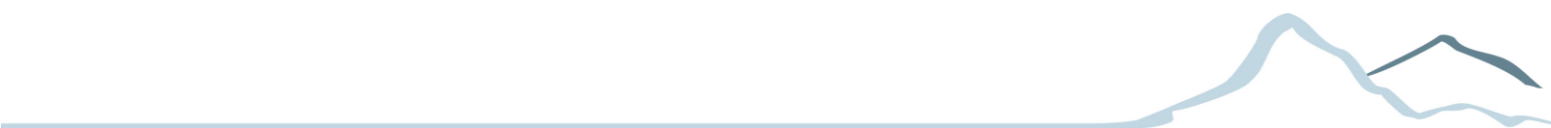
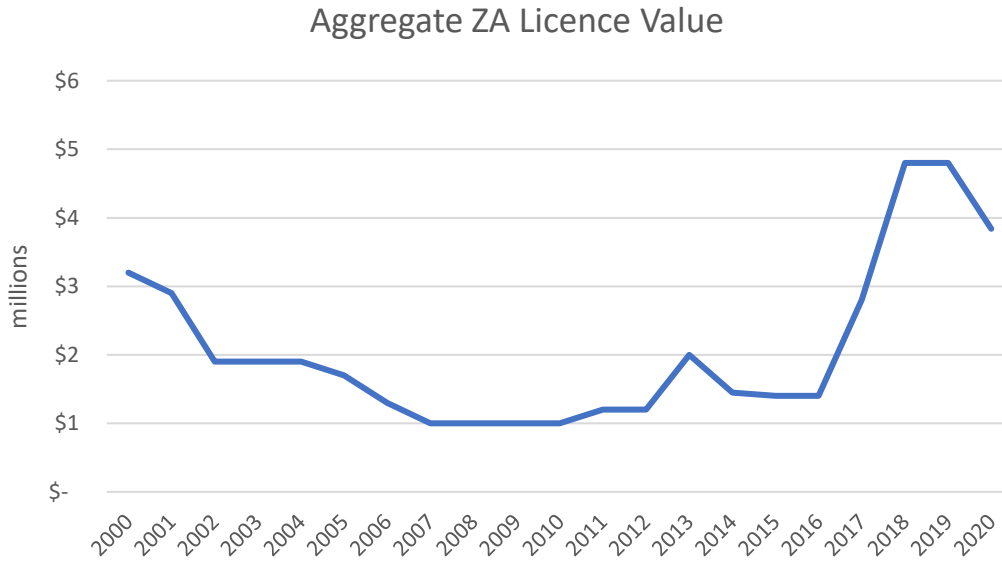
Green Sea Urchin	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	3	\$82,900	\$248,700
<b>Modern</b>	6	\$204,800	\$1,228,800
<b>Total</b>	9	\$164,200	\$1,477,800

## Licensing trends

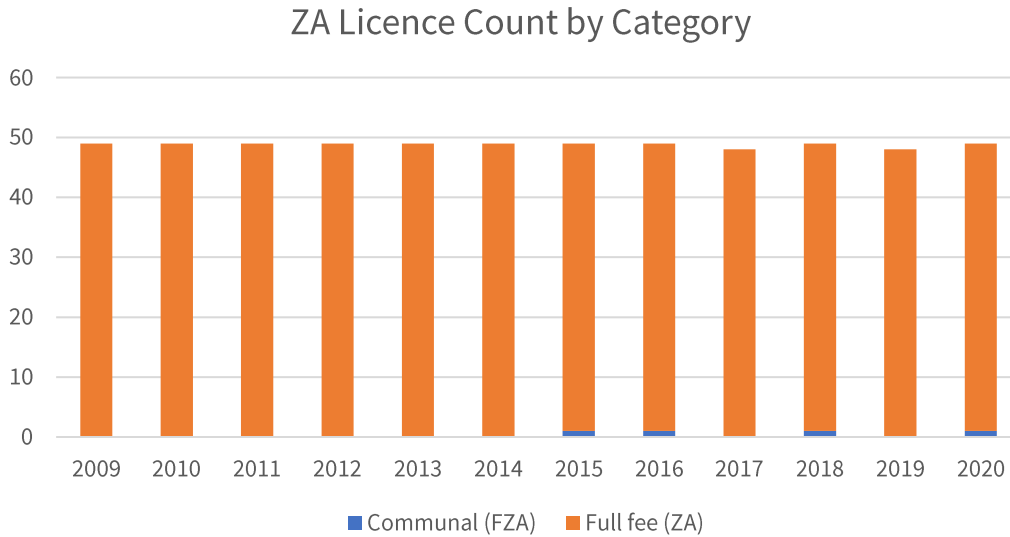
### Recent ZA licence valuation



### Aggregate value of ZA licences (\$ millions by year)



## ZA licence counts by category



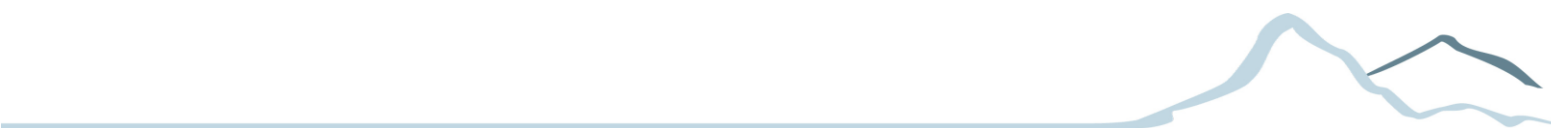
## Recent ZA lease rates

- One lease transaction was uncovered for \$6,000.

## Outlook/commentary

General observations on the outlook for the green sea urchin fishery include:

- The fishery has declined in value in Canada over the past few years since the Russian fishery opened and created competition.
- Industry experts have seen little movement over the last few years and expect the licence holders are retaining them with the hopes that the fishery will become profitable again.



# SHELLFISH – Euphausiid (ZF)

## Background to valuation

General	
Licence designation	ZF
Nature of Licence	party-based
# commercial licences	16
# communal commercial licences	1
Area licensing?	no
Stacking?	no
Competitive or quota mgmt.?	quota

Valuation Parameters	
Licence	per licence
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	low
# transactions underlying valuation	~0
Confidence in current year valuation	Very low

## Current valuation

*Licence value as of December 31, 2020*

Category	# of Licences	Value/Licence \$	Total Value \$
ZF Licence – Commercial	16	\$40,000	\$640,000



## Valuation comments

- No transaction activity was recorded for 2016, 2017, 2018, or 2019. Anecdotal information from 2015 indicated values in the \$40,000-\$50,000 range.
- Value per licence has remained the same but market capitalization has decreased due to relinquished licences.

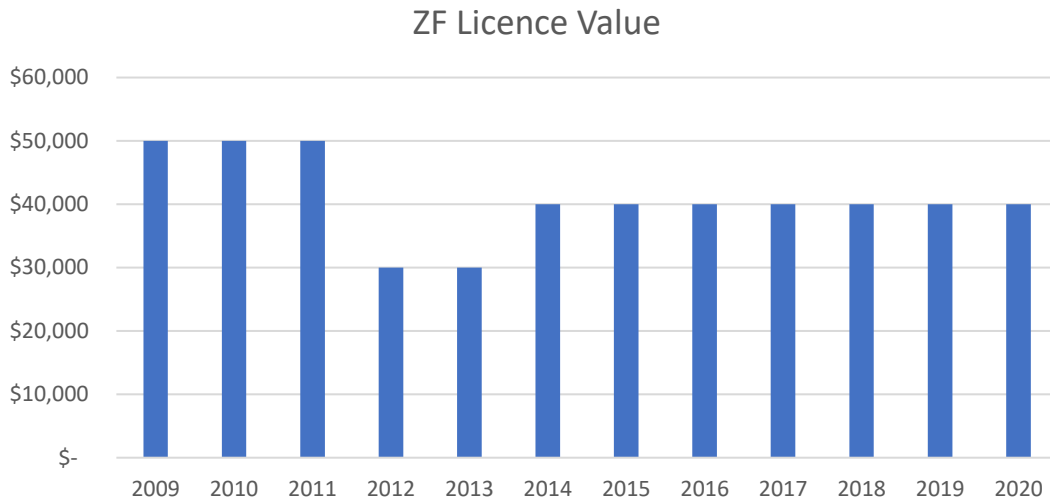
## Vessel value

Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. For this fishery, we were not able to update the number of vessels as this information was not available from DFO's *Pacific Region Commercial Fishing Licences Database*. As such, the vessel numbers below have been taken from last year's report. For more information about the limitations of this analysis please refer to the Valuation Methodology.

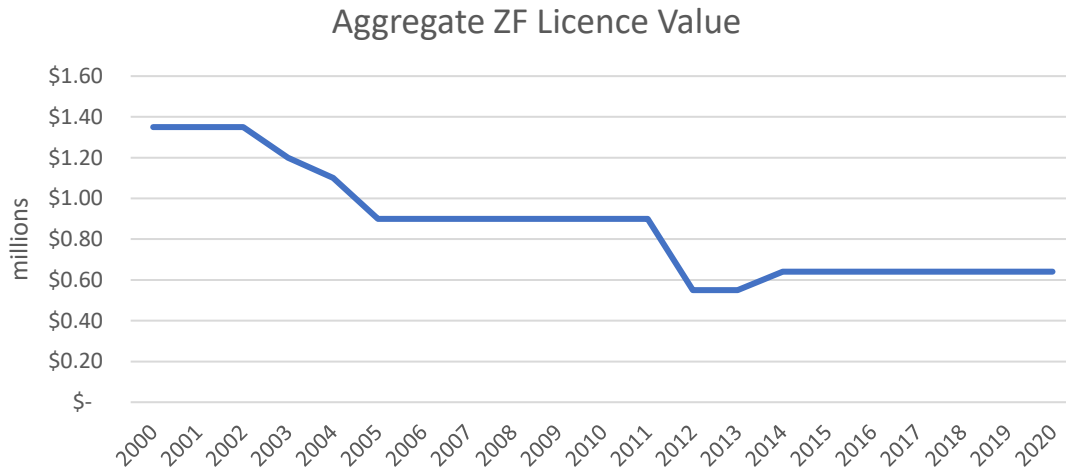
Euphasiid	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	3	\$184,000	\$552,000
<b>Modern</b>	0	\$661,500	n/a
<b>Total</b>	3	\$184,000	\$552,000

## Licensing trends

### Recent ZF licence valuation

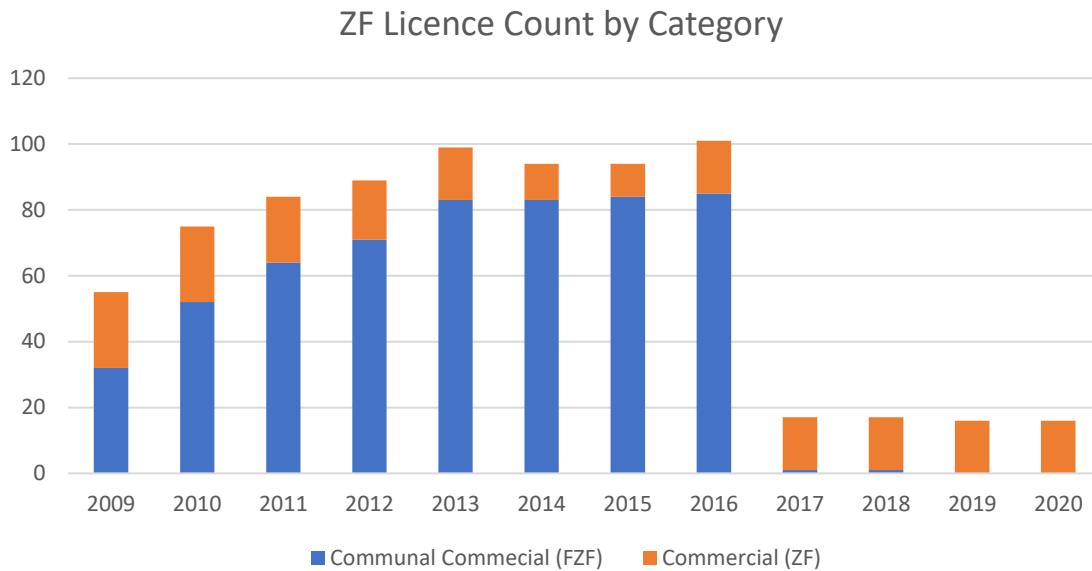


### Aggregate value of ZF licences (\$ millions by year)





## ZF licence counts by category



## Outlook/commentary

General outlook for the euphasiid fishery is summarized below:

- This is a very small-scale fishery with low participation and low profitability.
- Outlook is uncertain as little information could be provided by industry experts.



# Schedule II species (C)

## Background to valuation

General	
Licence designation	C
Nature of Licence	vessel-based
# commercial licences	307
# communal commercial licences	14
Area licensing?	No
Stacking?	No
Competitive or quota mgmt.?	Various

Valuation parameters	
Licence	per foot
Quota	n/a
Vessels	no
Amount of trading activity in category this year	low
# transactions underlying valuation	~ 0
Confidence in current year valuation	low

## Current valuation

*Licence value as of December 31, 2020*

Category	# of Licences	Value/Licence	Avg. Licence	Total Value
C Licence – Commercial	307	\$587/ft	\$18,490	\$5,676,430
FC Licence – Communal commercial	14	n/a	n/a	n/a



## Valuation comments

- Anecdotal reports from industry experts suggest that C licence values range from \$350-\$375 (under 30 feet and between 30-40 feet) per foot for smaller vessel to \$1,000 per foot for larger vessels (over 40 feet).
- Total licence value is based on an average licence price of ~\$19,000 and average vessel length of ~31.5 feet.

## Vessel value

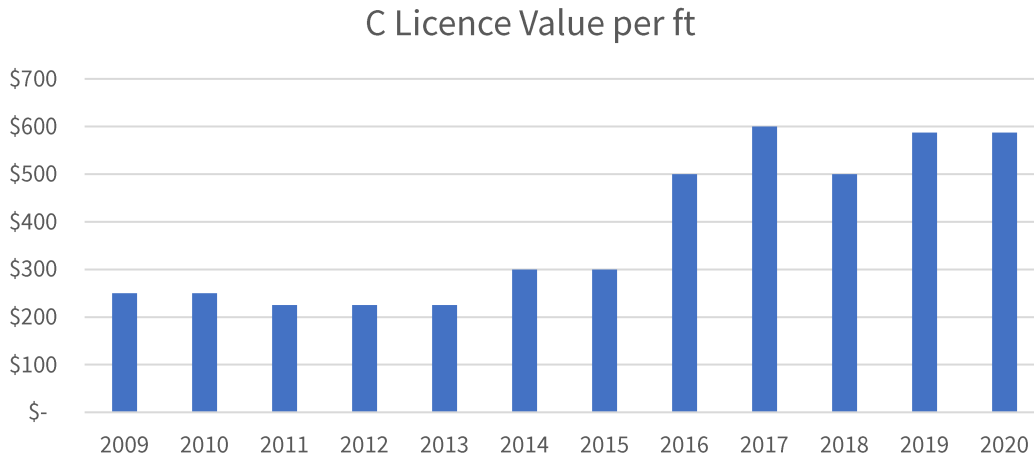
Vessel value is arrived at by using past data for average vessel value as a baseline and increasing the value based on inflation. The number of vessels has been updated based on DFO's *Pacific Region Commercial Fishing Licences Database*. However, we have only included vessels for which a vessel age was provided. As such, aggregate value represents only a portion of the total fleet. For more information about the limitations of this analysis please refer to the Valuation Methodology.

Schedule II	# Vessels	Avg. Vessel Value	Aggregate Value
<b>Classic</b>	155	\$41,000	\$6,355,000
<b>Modern</b>	102	\$146,400	\$14,932,800
<b>Total</b>	257	\$81,400	\$20,919,800

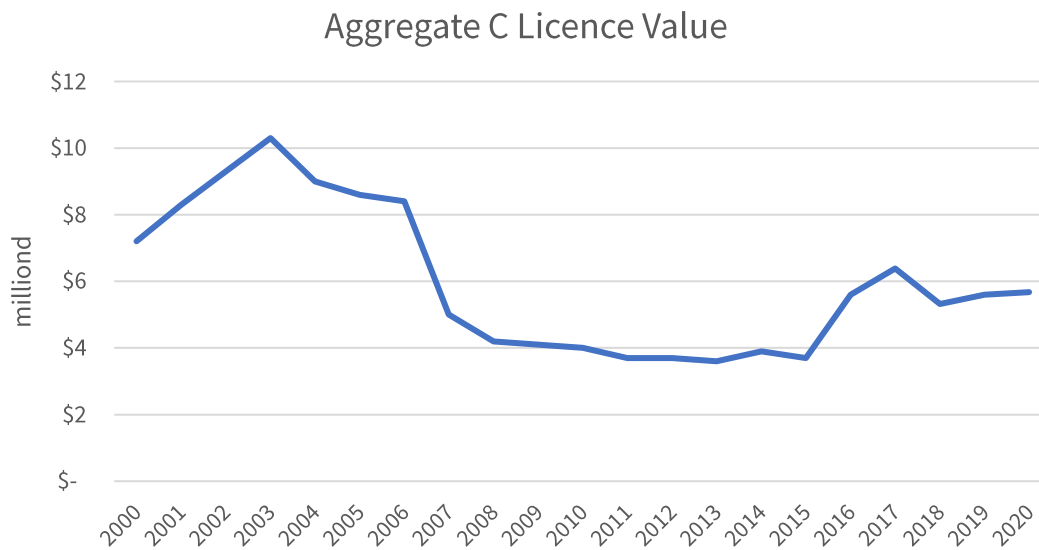


## Licensing trends

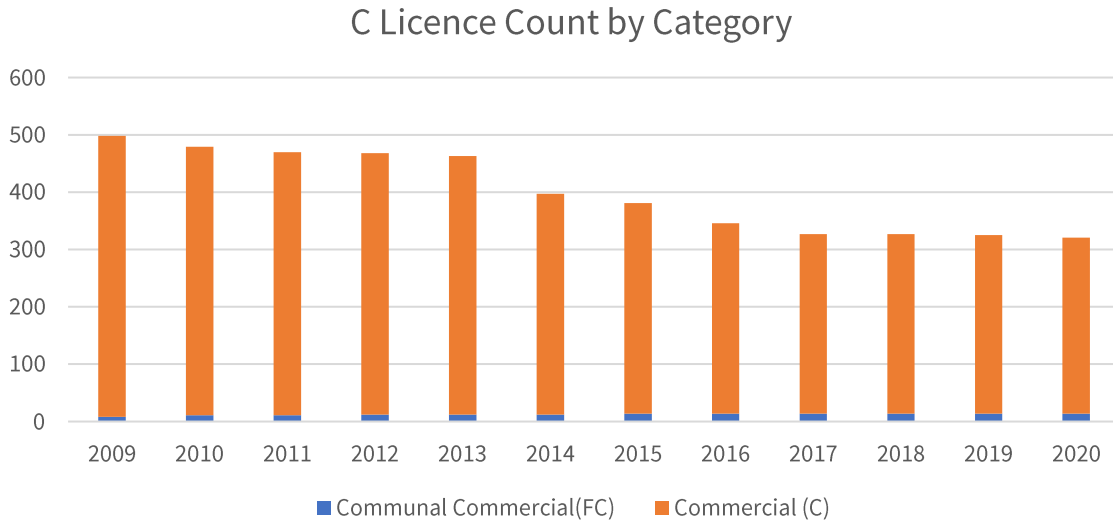
### Recent C licence valuations



### Aggregate value of C licences (\$ millions by year)



## C licence counts by category



## Outlook/commentary

Larger vessels are perceived to be more valuable as they can be used along with the USA 68 privileges to fish tuna. Smaller vessels may only be used as moorage unless the owner/operator also has another licence, such as an L-tab (halibut).

