



Castlemain

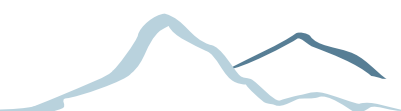
**ANALYSIS OF
COMMERCIAL
FISHING LICENCE,
QUOTA, AND
VESSEL VALUES**

**PREPARED FOR FISHERIES
AND OCEANS CANADA,
PACIFIC REGION**

AS AT DECEMBER 31, 2018

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Introduction

On an annual basis, with few exceptions over the last two decades, the Aboriginal Programs Division at Fisheries and Oceans Canada has undertaken a licence, quota, and vessel valuation study to determine valuations for commercial fishing licences, quota, and vessels operating in the Pacific commercial fishery.

The information gathered by DFO over the last 20 years of studies has been used for a wide variety of purposes including:

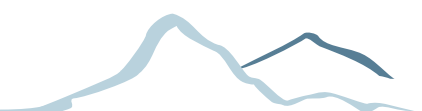
- Informing licence retirement and reallocation programs
- Gauging and analyzing the economic health of the Pacific fishing industry
- Developing policies around First Nations participation in the fishery and licence redistribution
- Estimating the impacts of policy decisions on the Pacific fishery
-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

The continuity in methodology is important so that changes in values can be viewed in relation to changes in the fishery in general.

This year's report contains an assessment of commercial fishing licence and quota values between January 1, 2018 and December 31, 2018.

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 2017 study were relied upon. In short, this report is the contractor's best effort to summarize sometimes imprecise data into an existing time series of values.

Each valuation has a confidence level of the valuation, ranging from low to high. This is an attempt to quantify 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.

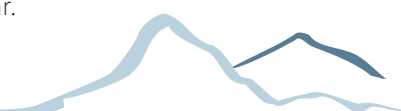


Summary: Year ending December 31, 2018

The following table summarizes the market capitalization of pacific commercial fishing licences and quota at December 31, 2018:

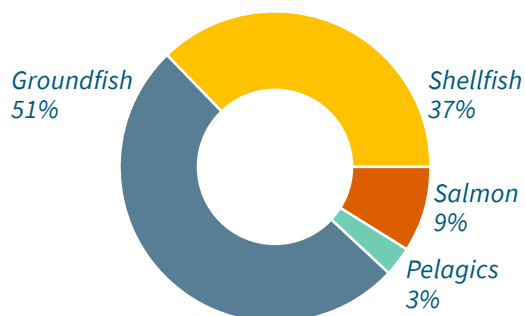
Fishing Grouping	Fishery	Licence Desc.	# of Licences	Average Licence Value (\$)	Aggregate Licence Value (\$)	Aggregate Quota Value (\$)	Average Quota Value (\$/Lb)	Total Licence & Quota Value (\$)
Salmon	Salmon Seine	AS	209	\$423,206	\$88,450,000	\$ -		\$88,450,000
	Salmon Gillnet	AG	812	\$69,341	\$56,305,000	\$ -		\$56,305,000
	Salmon Troll	AT	347	\$199,280	\$69,150,000	\$ -		\$69,150,000
Pelagics	Herring - Roe Seine	HS	241	\$99,025	\$23,865,000	\$ -		\$23,865,000
	Herring - Roe Gillnet	HG	987	\$39,517	\$39,003,000	\$ -		\$39,003,000
	Herring - Spawn on Kelp	J	34	\$175,000	\$5,950,000	\$ -		\$5,950,000
	Tuna	USA 68	45	\$225,000	\$10,125,000	\$ -		\$10,125,000
	Sardine	ZS	24	n/a	n/a	\$ -		n/a
Groundfish	Halibut	L	342	\$32,360	\$11,067,120	\$487,277,120	92.00	\$498,294,240
	Sablefish	K	41	\$250,000	\$10,250,000	\$268,129,972	82.00	\$278,379,972
	Groundfish Trawl	T	135	\$48,800	\$6,588,000	\$282,416,439	1.85	\$289,004,439
	Rockfish Inside	ZN	53	\$40,000	\$2,120,000	\$ -		\$2,120,000
	Rockfish Outside	ZN	158	\$280,000	\$44,240,000	\$ -		\$44,240,000
	Lingcod Hook & Line		n/a	n/a	n/a	\$32,271,520	15.00	\$37,271,520
	Dogfish Hook & Line		n/a	n/a	n/a	\$2,266,681	0.125	\$2,266,681
Shellfish	Prawn	W	187	\$799,546	\$149,515,139	\$ -		\$149,515,139
	Crab	R	189	\$775,000	\$146,475,000	\$ -		\$146,475,000
	Shrimp	S	207	\$41,750	\$8,642,250	\$ -		\$8,642,250
	Geoduck	G	50	\$250,000	\$12,500,000	\$375,000,000	133.93	\$387,500,000
	Sea Cucumber	ZD	84	\$1,300,000	\$109,200,000	\$ -		\$109,200,000
	Rea Sea Urchin	ZC	80	\$300,000	\$24,000,000	\$ -		\$24,000,000
	Green Sea Urchin	ZA	48	\$100,000	\$4,800,000	\$ -		\$4,800,000
	Euphausiid	ZF	16	\$40,000	\$640,000	\$ -		\$640,000
Schedule II	Schedule II Species	C	313	\$17,000	\$5,231,00	\$ -		\$5,231,000
					\$828,206,509	\$1,452,311,732		\$2,280,518,242

The total value of licences and quota at December 31, 2018 is about \$2.28 billion, compared with the \$2.33 billion valuation for 2017. The distribution of values between fisheries varied from year to year.



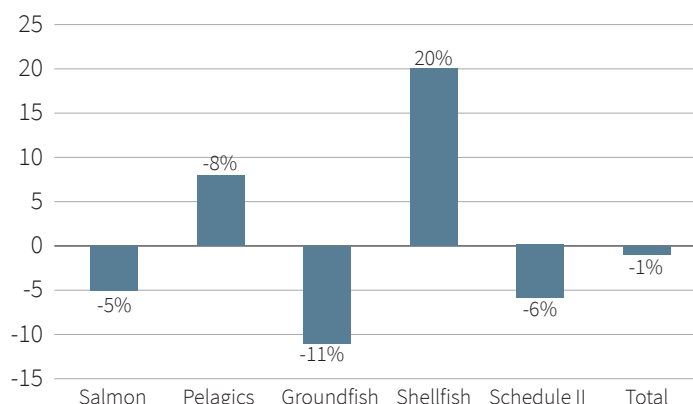
2018 Market Value by Fishery Grouping

Percentage of market capitalization by fishing category are shown in the chart below:



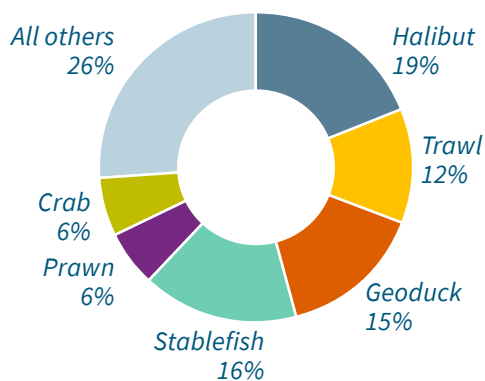
Percentage Change in Market Value by Fishery Grouping – 2018 vs 2017

Compared to 2017, total market capitalization decreased by 1% in 2018. The following chart shows the percentage change for each fishery grouping shown:



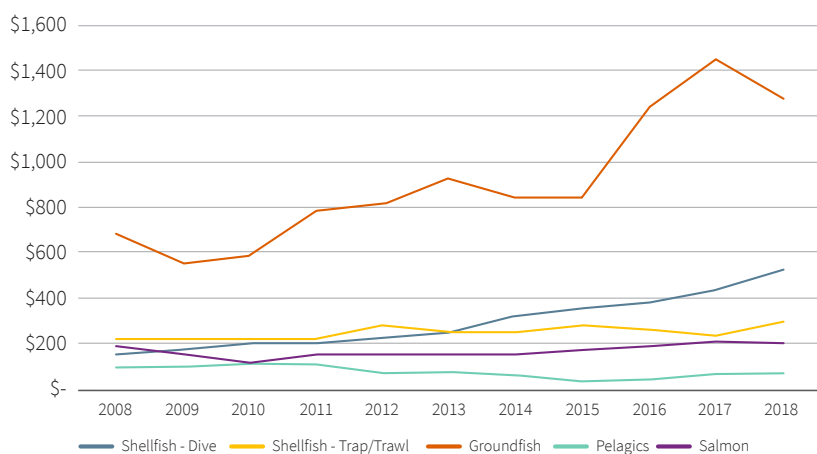
Top Six Fisheries Relative to Overall Licence and Quota Values (\$ millions)

As shown in the next chart, the six fisheries with the largest aggregate licence and quota valuations account for 74% of total value, while the remaining 18 fisheries make up 26%



Aggregate Licence and Quota Value (\$ millions) By Major Fishery Groupings

Aggregate value over the last 10 years is shown by fishery category in the chart below.



Salmon

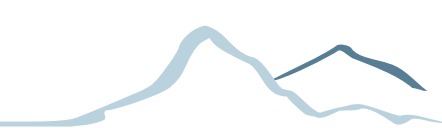
Salmon licence values have seen steady growth since 2014. Seine licence values had a spike in 2015 but have remained essentially the same through to 2018. Gillnet licences, however, have risen 28%, and troll licences have risen 57% in anticipation of a profitable fishery in 2018. The following table provides a snapshot of the salmon category:

Aggregate Salmon Licence Value (\$ millions)



Pelagics

After years of declining licence values from 2010 - 2015, there is a trend towards more historic values. In 2018 Roe Herring Gillnet values continued to rise and have increased 63% in value since 2015 as resource estimates have regained some confidence. Seine licence values rose sharply in 2017 and have maintained their value through 2018 despite low profitability in the fishery.

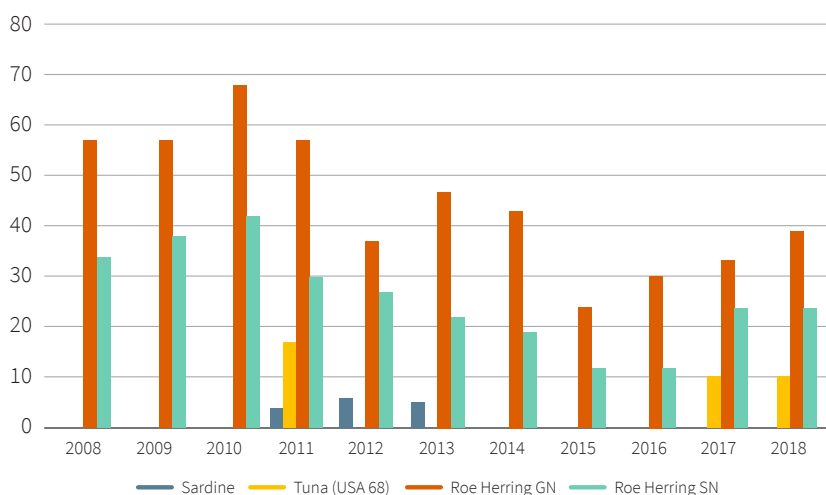


Sardines have not shown up in BC waters for six straight years, the absence of a treaty between Canada and the USA, and the limited and tenuous rights associated with some of the USA 68 (tuna) licences, make this category difficult to evaluate.

The Spawn on Kelp fishery has previously been included in this report erroneously as it has no commercial valuation and is restricted to non-cash transactions within the Aboriginal Fishery. It has been removed from the 2018 Report.

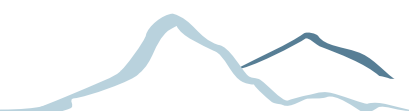
The following table provides a snap shot of the pelagics category:

Aggregate Pelagics Licence Value (\$ millions)

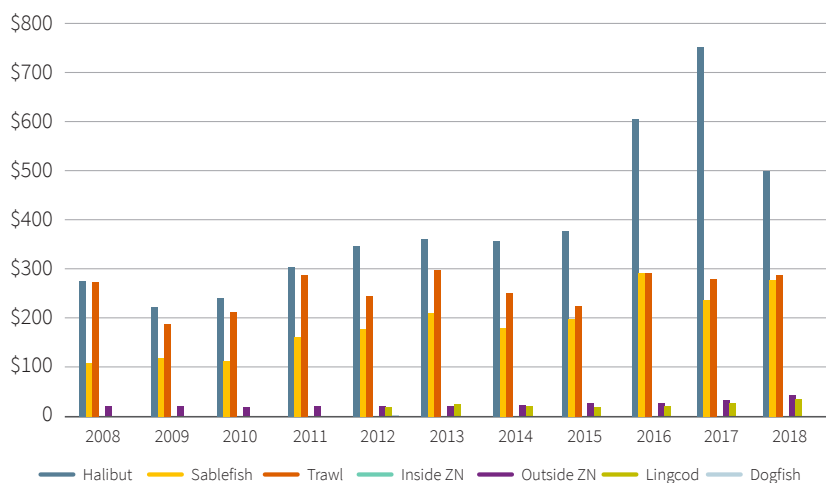


Groundfish

After a 7% growth in 2017, licence and quota values in the groundfish category dropped by 14% in 2018. This was driven by a 34% drop in halibut value due to both quota volume adjustments and a decrease in unit price. This correction must have been expected after prices soared and quotas were reduced for 2018. Groundfish, sablefish, and lingcod as uncut quota made some gains in 2018 which helped offset the loss in halibut values for the category. The Trawl fleet maintained a relatively steady value with regards to market capitalization. The following table provides a snapshot of the groundfish category:



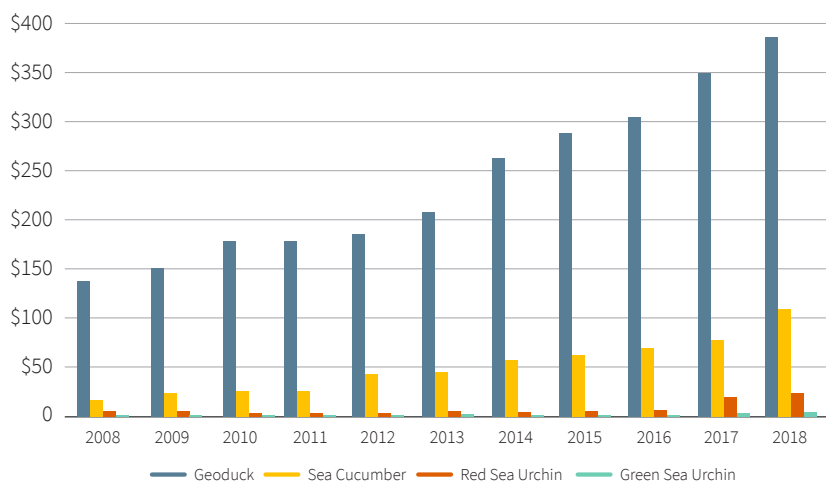
Aggregate Groundfish Licence and Quota Value (\$ millions)



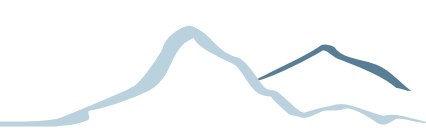
Shellfish

The shellfish dive fisheries showed significant growth again in 2018, with gains seen in all four fisheries. Geoduck value grew by 11% and red and green sea urchin showed massive gains of 23% and 67% respectively. Part of this growth has been attributed to higher market prices being found by flying the product live to Asian markets. Demand is strong and supply is short for access to this fishery, and many of the urchin and cucumber fisheries are incremental to the geoduck fishery. Sea cucumber also saw strong growth of 41%. The following table provides a snapshot of shellfish dive fisheries:

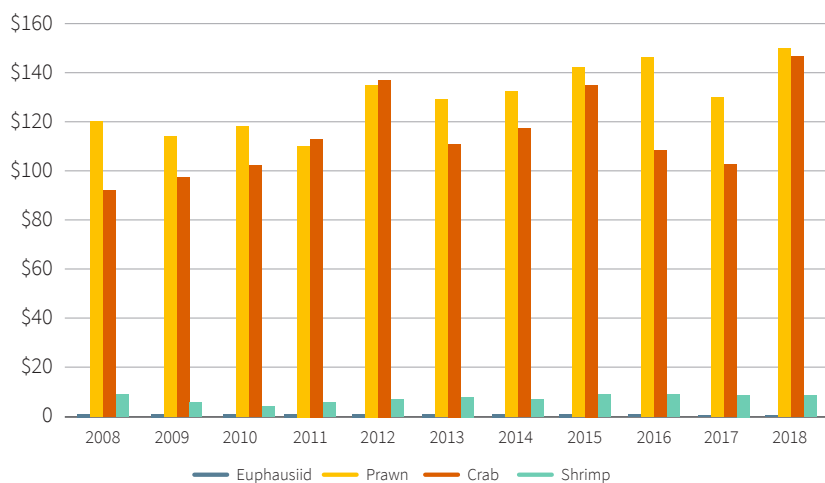
Shellfish Dive Fisheries – Aggregate Licence Value (\$ millions)



For the shellfish trap/trawl fisheries, prawn market capitalization regained most of the value lost in 2017 and the crab fishery gained 43% in value after a 5% drop in 2017. The following table provides a snapshot of the shellfish trap and trawl fisheries:



Shellfish Trap/ Trawl Fisheries – Aggregate Licence Value (\$ millions)



Rates of Return – Leasing

The estimated rate of return for readily leased (typically non-vessel based or fisheries with IVQ) licences or quota for the valuation period is shown in the following table. Estimates are the contractor's best effort to capture a value for market lease rates that can vary widely:

Fishery	Lease Rate	Quota/Licence Valuation	Rate of Return
Herring - Roe Seine	\$ 6,750.00	\$ 99,024.90	6.8%
Herring - Roe Gillnet	\$ 1,000.00	\$ 39,516.72	2.5%
Halibut	\$ 7.40	\$ 92.00	8.0%
Sablefish	\$ 5.50	\$ 82.00	6.7%
Trawl - Groundfish	\$ 0.13	\$ 1.85	7.0%
Trawl - Offshore Hake	\$ 0.005	\$ 0.25	2.00%
Rockfish Inside	\$ 1,200.00	\$ 40,000.00	3.0%
Rockfish Outside	\$ 7,500.00	\$ 280,000.00	2.7%
Lingcod Hook & Line	\$ 0.40	\$ 15.00	2.7%
Dogfish Hook & Line	\$ -	\$ 0.12	0.0%
Prawn	\$ 32,000.00	\$ 799,546.20	4.0%
Crab	\$ 40,000.00	\$ 775,000.00	5.2%
Geoduck	\$ 620,000.00	\$ 7,500,000.00	8.3%
Sea Cucumber	\$ 80,000.00	\$ 1,300,000.00	6.2%
Red Sea Urchin	\$ 6,500.00	\$ 300,000.00	2.2%
Green Sea Urchin	\$ 4,000.00	\$ 100,000.00	4.0%

Methodology

Valuations Performed

The following table summarizes the scope of work and valuations carried out for this report:

Fishery Grouping	Fishery	Gear	Valuations				
			Average Vessel Value	Average 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		x
	Herring - Spawn on Kelp						
	Tuna	Hook & 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 & Line	x	x			x
	Lingcod and Dogfish	Hook & 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
	Red Sea Urchin	Dive	x	x			x
	Green Sea Urchin	Dive	x	x			x
	Euphausiid	Trawl	x	x			
Schedule II	Schedule II Species			x			

Valuation Methodology

Information on commercial fishing licence and quota values were gained through interviews with individual licence holders, brokers, fishers, processors, industry publications, and anyone with knowledge of specific market transactions. Most valuations are a synthesis of multiple sources listed above, or in some cases where information could not be



uncovered, data from the 2017 report was utilized. The following is a list of information sources starting with the most preferred:

- 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

Licence/ Quota Stratification & Valuation Criteria

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

A general description is also included for:

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

Licencing Information

For more information than the brief synopses of licencing information provided in this report, please refer to the following sources:

- IFMP's: <http://www.pac.dfo-mpo.gc.ca/fm-gp/ifmp-eng.html>
- DFO Licencing: <https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/licence-commercial-eng.html>

SALMON – Salmon Seine

Background to Valuation

General	
Licence Designation	AS
Nature of Licence	Vessel-based
# Commercial Licences	209
# Communal Commercial Licences	67
Area Licencing?	2 areas
Stacking?	Yes
Competitive or Quota Management?	Competitive with pilot IVQ

Valuation Parameters	
Licence	Per Licence
Quota	n/a
Vessels	Yes
Amount of trading activity in category this year	Low
# Transactions underlying valuation	≈ 3
Confidence in current year valuations	Low

Current Valuation

Licence Value at December 31, 2018

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
Full Fee	194	425,000	82,450,000
Reduced Fee	15	400,000	6,000,000
F	67	n/a	n/a
All AS	209	423,206	88,450,000

Valuation Comments

- The valuation range for the period is \$400,000 - \$530,000 (full fee).
- There was a low amount of market activity for salmon seine licences, and only one recorded transaction for ~\$500,000.



- Industry experts feel that these licences would be more fairly priced closer to \$250,000 - \$300,000.
- 2018 was a speculative market based on future runs, there were buyers interested.
- No reduced fee licences were uncovered so valuation is an estimate.

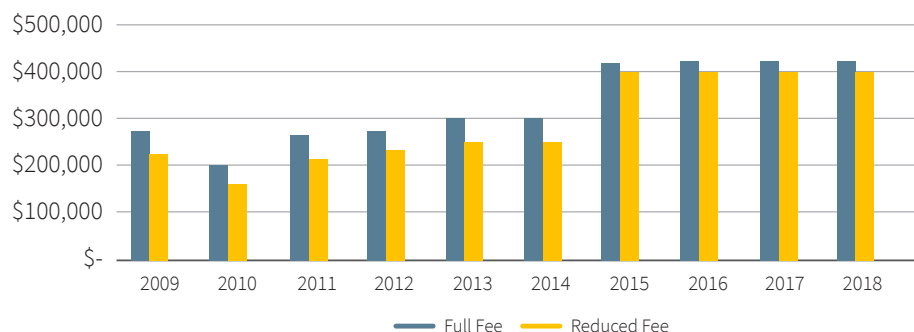
Vessel Value

Aggregate fleet value is arrived at by using past data for average vessel value as a baseline, however the number of vessels has been updated. Fleet vessel valuation is imprecise and uses incomplete DFO datasets. The number of licenced vessels is drawn from DFO's Pacific Region Commercial Fishing Licences Database

Salmon Seine	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	100	184,000	18,433,615
Modern Style	38	646,000	24,429,981
Total	138	310,606	42,863,596

Licensing Trends

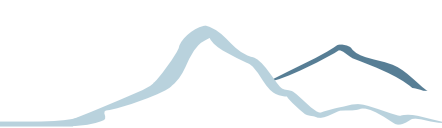
Recent AS Licence Valuations (Nominal \$s – not adjusted for inflation)



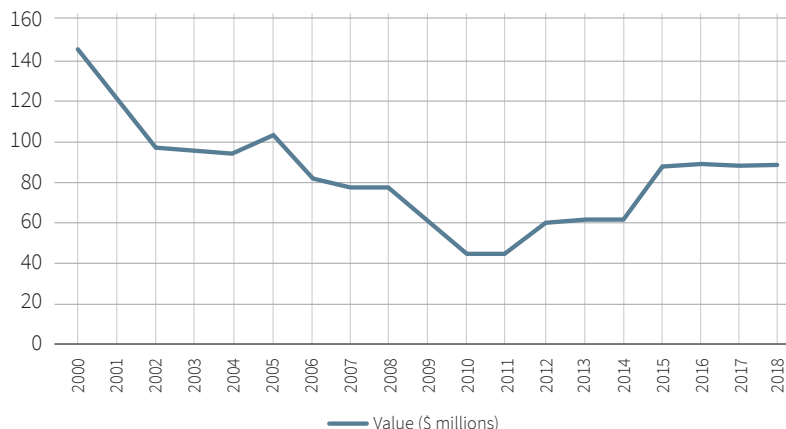
Salmon seine licence prices have remained steady over the last 4 years. This lofty valuation in licence values from 2015 onwards seems based on speculation about the future profitability of the fishery. Some industry experts have suggested that current profits from the fishery would support a valuation closer to \$250,000 - \$300,000. The 2018 season did not deliver as expected and 2019 prices could end up correcting slightly.

Recent AS Licence Lease Rates (\$)

Salmon Seine licences were leasing for approximately \$5000 in 2018.



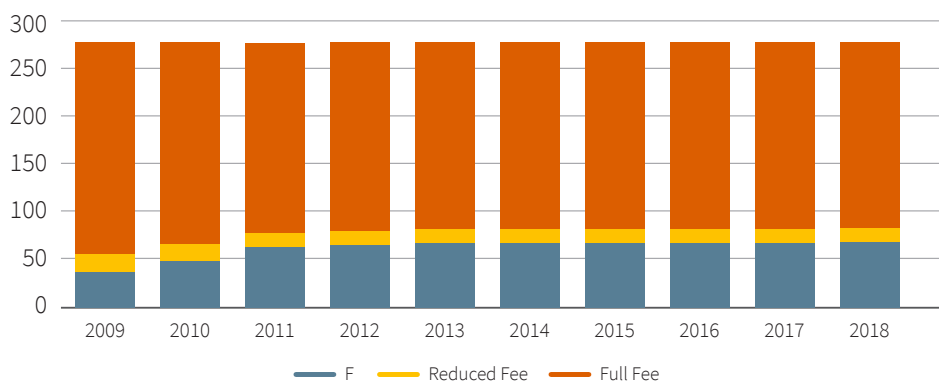
Aggregate Value of AS Licences (\$ millions by year)



While there were buyers for AS licences few people are wanting to sell in anticipation of a very profitable year in 2018. Some industry experts believe that there will be more activity in this licence category in 2019.

AS Licence Counts by Category

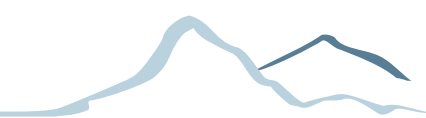
The number of AS licences remained stable over 2018.



Outlook/ Commentary

The outlook for the seine sector is uncertain given:

- The expected bumper year for 2018 did not materialize.
- Current licence holders are likely in a position to wait for the fishery to return to higher profit levels however the confidence level in future big returns appears to be dropping.
- The seine licences are highly dependent on salmon returns and foretasted pessimism could result in a correction of pricing in 2019.
- Some industry experts peg the value of a seine licence closer to \$250,000 to \$300,000.
- Currently many fishers are just making wages with little room for margins.



SALMON – Salmon Gillnet

Background to Valuation

General	
Licence Designation	AG
Nature of Licence	Vessel-based
# Commercial Licences	812
# Communal Commercial Licences	340
Area Licensing?	3 areas
Stacking?	Yes
Competitive or Quota Management?	Competitive with pilot IVQ

Valuation Parameters	
Licence	Per Licence
Quota	n/a
Vessels	Yes
Amount of trading activity in category this year	Med
# Transactions underlying valuation	≈ 25
Confidence in current year valuations	High

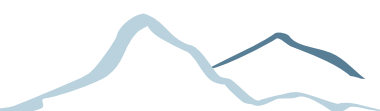
Current Valuation

Licence Value at December 31, 2018

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
Full Fee	705	70,000	49,350,000
Reduced Fee	107	65,000	6,955,000
F	340	n/a	n/a
All AG	1152	69,341	56,305,000

Valuation Comments

- The market value remained high for all AG licences due to speculation for large returns of Adam's River Sockeye and strong Chum Returns in the Georgia Strait.
- Valuation range for period: \$35,000 - \$75,000 for reduced fee and \$55,000 to \$90,000 for full fee.



- Few reduced fee licences were uncovered so the confidence in the valuation for reduced fee is circumstantial.
- The pricing can vary considerably by area with Area E collecting the higher values and Area C the lowest.

Vessel Value

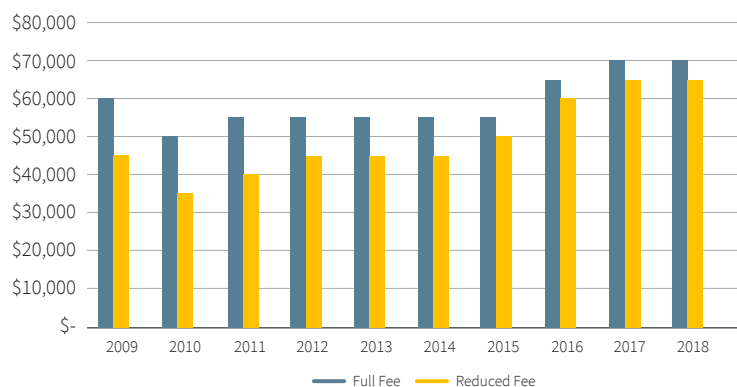
Aggregate fleet value is arrived at by using past data for average vessel value as a baseline; however, the number of vessels has been updated and adjusted, and duplicate vessel counts were identified as vessels often stack multiple licences. Fleet vessel valuation is imprecise and uses incomplete datasets. The number of licenced vessels is drawn from one data source:

- DFO’s Pacific Region Commercial Fishing Licences Database

Salmon Gillnet	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	251	73,000	18,309,427
Modern Style	293	162,000	47,496,121
Total	544	120,966	65,805,548

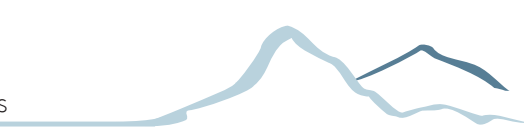
Licensing Trends

Recent AG Licence Valuations (Nominal \$s – not adjusted for inflation)

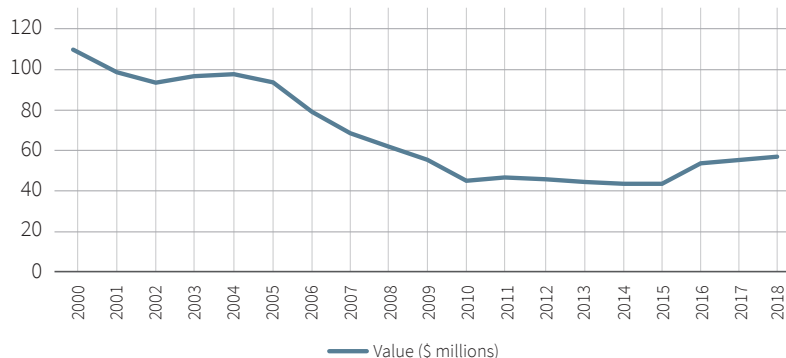


Recent AG Licence Lease Rates (\$)

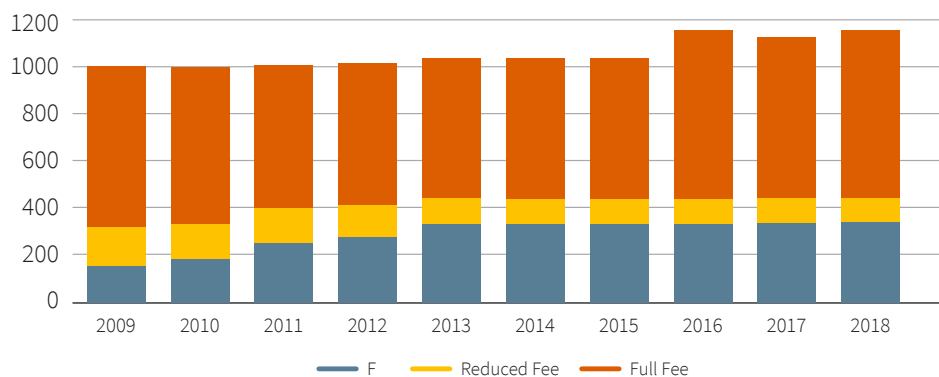
Lease rates in 2018 surged for a few of the speculative south coast salmon fisheries and lease rates for south coast D and E Licences got as high as \$6000. South coast licences in 2019 are expected to drop. Area C licences were leasing for around \$1500 in 2018.



Aggregate Value of AG Licences (\$ millions by year)

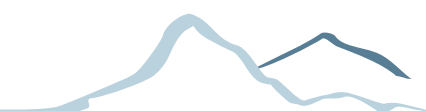


AG Licence Counts by Category



Outlook/ Commentary

- The speculative outlook for the Salmon Gillnet fishery is likely to wane with the general pessimism in the salmon fishery on the coast due to low stock abundance, anticipated returns, and prospective area closures.
- There was a lot of market activity in 2018 and it could continue into 2019 as prices begin to correct due to the less optimistic outlook.
- Industry experts are anticipating a drop in AG licences prices for 2019.



SALMON – Salmon Troll

Background to Valuation

General	
Licence Designation	AT
Nature of Licence	Vessel-based
# Commercial Licences	347
# Communal Commercial Licences	85
Area Licensing?	3 areas
Stacking?	Yes
Competitive or Quota Management?	Competitive with pilot IVQ

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 valuations	High

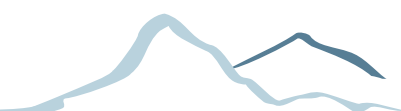
Current Valuation

Licence Value at December 31, 2018

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
Full Fee	337	200,000	67,400,000
Reduced Fee	10	175,000	1,750,000
F	85	n/a	n/a
All AT	432	199,280	69,150,000

Valuation Comments

- Values ranged from \$135,000 to \$250,000.
- Area F collects the highest value.
- Shorter AT licences are discounted while longer licences (50+ feet) sell at a premium.



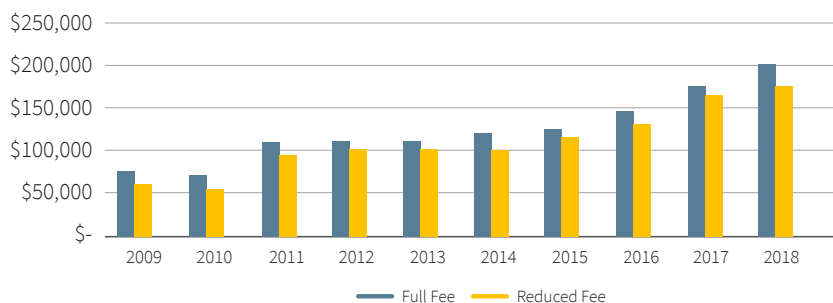
Vessel Value

Aggregate fleet value is arrived at by using past data for average vessel value as a baseline; however, the number of vessels has been updated. The data set for 2018 excluded the counts for duplicate vessels that often stack multiple licences. Fleet vessel valuation is imprecise and uses imprecise, incomplete datasets. The number of licenced vessels is drawn from DFO's Pacific Region Commercial Fishing Licences Database.

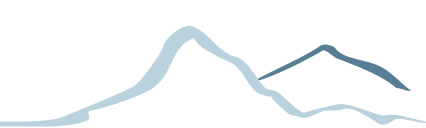
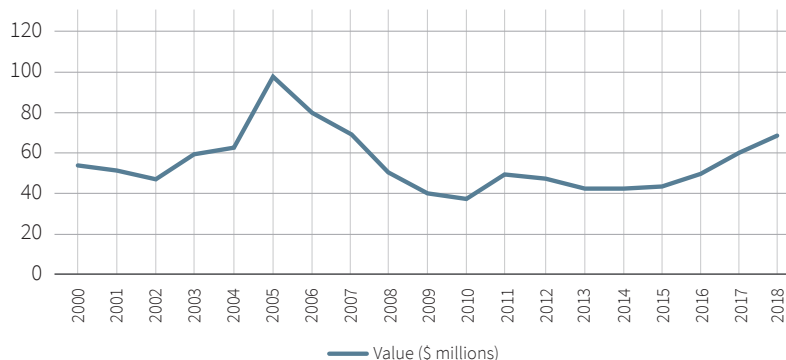
Salmon Troll	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	232	136,000	31,529,398
Modern Style	47	262,000	12,357,542
Total	279	157,301	43,886,940

Licensing Trends

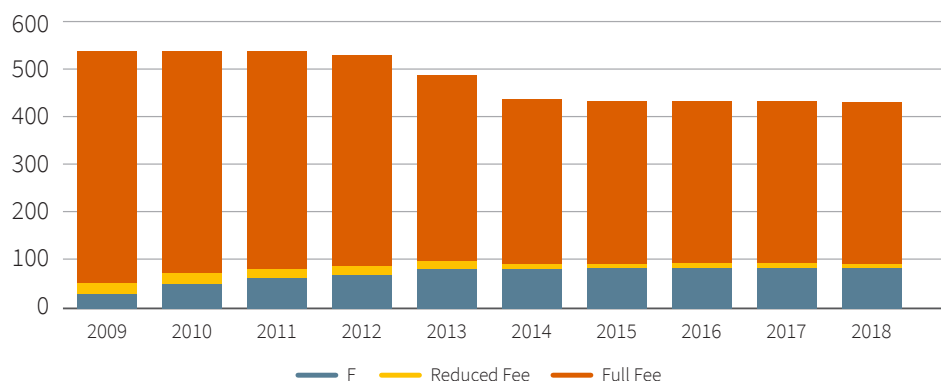
Recent AT Licence Valuations (Nominal \$s – not adjusted for inflation)



Aggregate Value of AT Licences (\$ millions by year)



AT Licence Counts by Category



Outlook/ Commentary

- Area F (North Coast) is seen as the most desirable AT licence as there is less of a risk of Southern Resident closures and stocks tend to be healthier.
- Fishing on the coast is seen as sporadic and under threats from climate change, rights-based fisheries, Orcas, MPAs, forestry/habitat, and susceptible to the changing politics through the Pacific Salmon Treaty.
- The only real value in these licences is if the vessel has stacked multiple licences for a variety of areas or as an Area F licence.
- Licence value could drop significantly in 2019.



PELAGICS – Roe Herring Seine

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 Management?	Pools (equal sharing)

Valuation Parameters	
Licence	Per Licence
Quota	n/a
Vessels	Yes
Amount of trading activity in category this year	Very Low
# Transactions underlying valuation	≈ 2
Confidence in current year valuations	Low

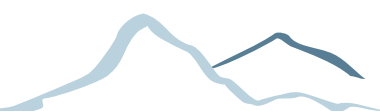
Current Valuation

Licence Value at December 31, 2018

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
Full Fee	194	100,000	19,400,000
Reduced Fee	47	95,000	4,465,000
F	11	n/a	n/a
All HS	252	99,025	23,865,000

Valuation Comments

- Prices held steady at around \$100,000 for a licence so the fishery continues to show promise.
- There are a few buyers but only willing to pay up to around \$100,000 and most licence holders would prefer to just hang on to the licence in case the fishery continues on the recovery path and openings become profitable again.



- Industry experts have indicated there are primarily 2 buyers, and there seems to be a disconnect with the licence values and the profitability of the fishery.

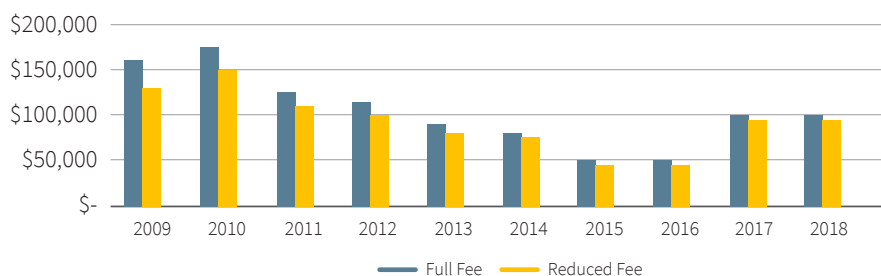
Vessel Value

Aggregate fleet value is arrived at by using past data for average vessel value as a baseline; however, the number of vessels has been updated. The data set for 2018 excluded the counts for duplicate vessels that often stack multiple licences. Fleet vessel valuation is estimated and uses imprecise, incomplete DFO datasets.

Herring Seine	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	21	175,000	3,718,750
Modern Style	64	733,000	46,728,750
Total	85	593,500	50,447,500

Licensing Trends

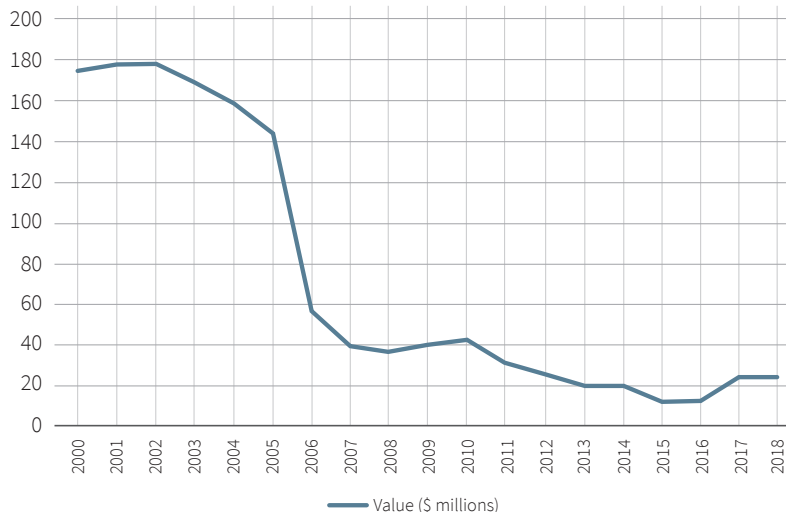
Recent HS Licence Valuations (Nominal \$s – not adjusted for inflation)



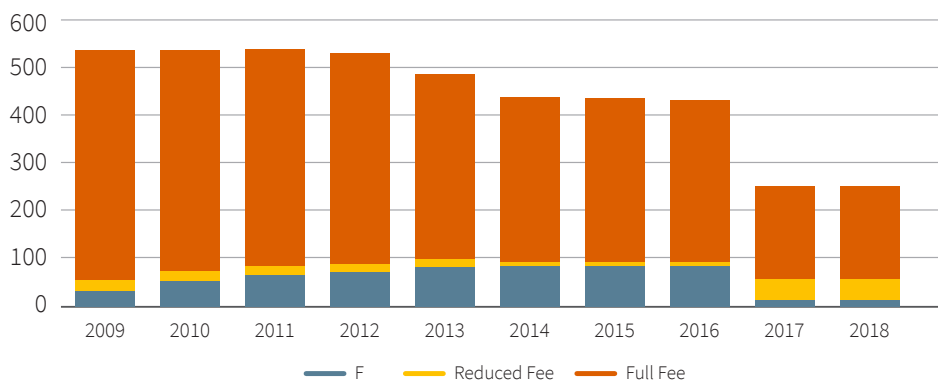
Recent HS Licence Lease Rates (\$)

HS licences were leasing for approximately \$6750.00 in the Salish Sea area/Georgia Straight. Other leases that may be leased for the licencing fee, have little to no lease value and are underutilized.

Aggregate Value of HS Licences (\$ millions by year)

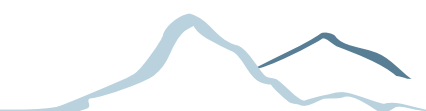


HS Licence Counts by Category



Outlook/ Commentary

- Resource healthier than thought and holding on that trend since 2017.
- Some participants predict that the future for herring fisheries lies in food and bait markets, though significant industry re-organization will need to occur.
- Very tight market for licence sales right now as licence holders do not seem interested in selling for what buyers are willing to pay.
- Some industry experts believe stocks are good, but the fishery will never be as lucrative as it was due to international pressure from Alaska and Russia.



PELAGICS – Roe Herring Gillnet

Background to Valuation

General	
Licence Designation	HG
Nature of Licence	Party-based
# Commercial Licences	987
# Communal Commercial Licences	280
Area Licensing?	5 areas
Stacking?	yes
Competitive or Quota Management?	Pools (equal sharing)

Valuation Parameters	
Licence	Per Licence
Quota	n/a
Vessels	n/a
Amount of trading activity in category this year	Low
# Transactions underlying valuation	≈ 14
Confidence in current year valuations	High

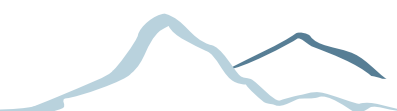
Current Valuation

Licence Value at December 31, 2018

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
Full Fee	743	41,000	30,463,000
Reduced Fee	244	35,000	8,540,000
F	280	n/a	n/a
All HG	1267	39,517	39,003,000

Valuation Comments

- Values for this valuation ranged from \$38,000 - \$50,000.
- There was an increase of activity this year from last year.
- As prices moved up a few sellers were willing to move forward on a deal.



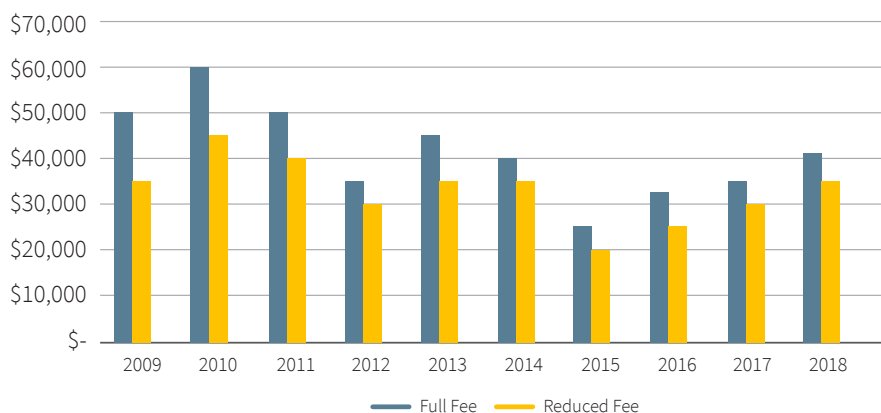
Vessel Value

Aggregate fleet value is arrived at by using past data for average vessel value as a baseline. Fleet vessel valuation is imprecise and uses imprecise and incomplete DFO datasets. The number of licenced herring roe gillnet vessels was drawn from 2015's valuation report and has not been updated as no vessel data for this category could be accessed as they are party-based licences and are not associated with particular vessels.

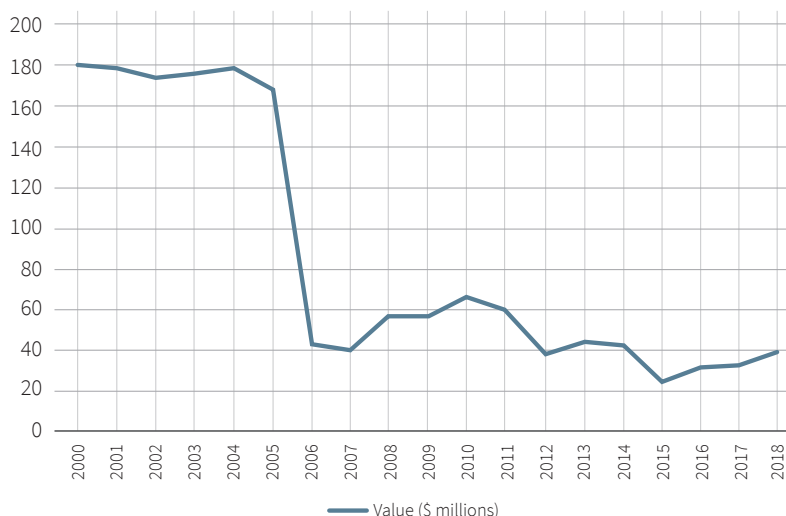
Herring Gillnet	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	90	38,000	3,420,000
Modern Style	210	132,000	27,720,000
Total	300	103,800	27,720,000

Licensing Trends

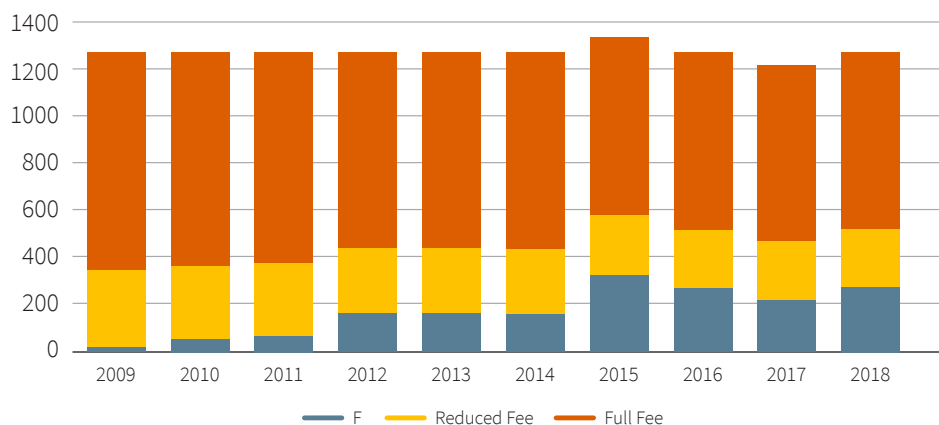
Recent HG Licence Valuations (Nominal \$s – not adjusted for inflation)



Aggregate Value of HG Licences (\$ millions by year)

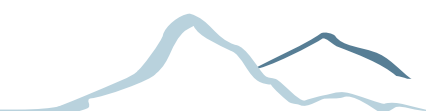


HG Licence Counts by Category



Outlook/ Commentary

- Similarly, to herring roe seine but at less of an extreme, there seems to be a disconnect in the value of HG licences and the profitability of the fishery.
- Also, similarly to herring roe seine, there is slightly increased optimism that this fishery will return to be a steady income earner but not to the lucrative status enjoyed in the past.
- The market for HG licences is tight as current licence holders are not wanting to sell at current prices.



PELAGICS – Tuna and Sardine

Tuna (Category USA 68)

General	
Licence Designation	USA 68
Nature of Licence	Vessel-based
# Commercial Licences	45
# Communal Commercial Licences	0
Area Licencing?	No
Stacking?	No
Competitive or Quota Management?	Competitive

Valuation Parameters	
Licence	Per Licence
Quota	n/a
Vessels	n/a
Amount of trading activity in category this year	Low
# Transactions underlying valuation	= 0
Confidence in current year valuations	Low

Current Valuation

Licence Value at December 31, 2018

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
USA 68	45	225,000	10,125,000

Valuation Comments

- Most tuna fishers do not rely on the USA 68 licence, rather they seek a tuna permit under the schedule II privileges at a substantial savings.

Sardine (ZS)

General	
Licence Designation	ZS
Nature of Licence	Party-based
# Commercial Licences	24
# Communal Commercial Licences	0
Area Licencing?	No
Stacking?	No
Competitive or Quota Management?	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 valuations	No valuation provided

Current Valuation

Licence Value at December 31, 2018

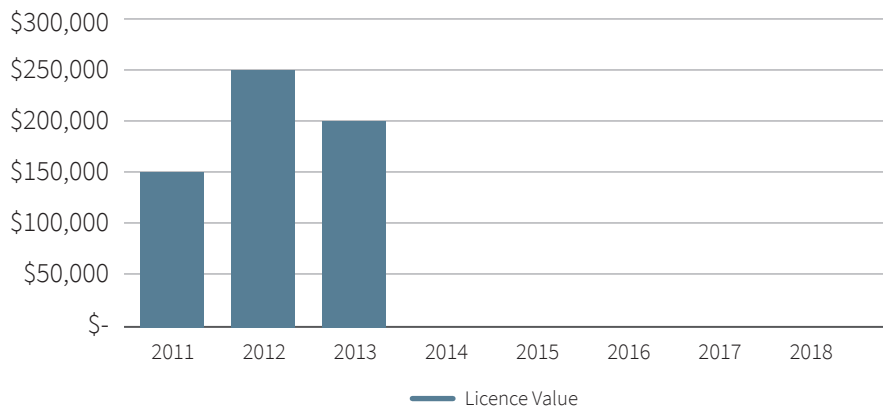
Category	# Licences	Value/ Licence (\$)	Total Value (\$)
ZS	24	n/a	n/a

Valuation Comments

- 2018 marked the fifth consecutive season that sardines failed to materialize in BC waters, resulting in no harvest for the season.
- No transactions uncovered for this licence and likely no transactions at all took place.

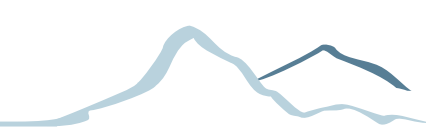
Licencing Trends

Recent ZS Licence Valuations (Nominal \$s – not adjusted for inflation)



Outlook/ Commentary

- For the fifth straight year, sardine numbers remained below the cut-off level where directed fishing for the species could again be allowed.
- There are some indications of stronger sardine reproduction and changes in the decadal trends in ocean temperatures that could eventually lead to improvements in West Coast sardine numbers.



GROUND FISH - Halibut

Background to Valuation

General	
Licence Designation	L
Nature of Licence	Vessel-based
# Commercial Licences	342
# Communal Commercial Licences	92
Area Licencing?	No
Stacking?	No
Competitive or Quota Management?	Quota

Valuation Parameters	
Licence	Per Foot
Quota	Per lb (dressed head)
Vessels	Yes
Amount of trading activity in category this year	Low
# Transactions underlying valuation	≈ 10
Confidence in current year valuations	Med

Current Valuation

Licence & Quota Value at December 31, 2018

Category	# Licences	Value per ft/ lb quota (\$)	Total Value (\$)
L Licences	342	\$ 800	11,067,120
Quota	5,295,947	\$ 92	487,227,120
Total Value			498,294,240

Valuation Comments

- Average licence value based on \$800 per foot.
- Price on halibut quota ranged from \$84/lb - \$95/lb.
- Halibut quota prices have stabilized from highs of \$130/lb in early 2017.
- Anticipated quota reductions may have affected values.

Vessel Value

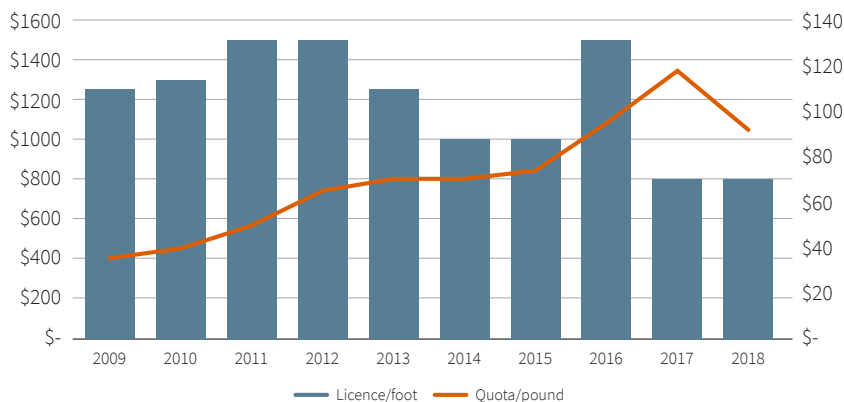
Aggregate fleet value is arrived at by using past data for average vessel value as a baseline; however, the number of vessels has been updated. Fleet vessel valuation is imprecise and uses imprecise incomplete DFO datasets. The number of licenced vessels is drawn from two data sources:

- DFO’s Detailed Vessel Info Database
- DFO’s Pacific Region Commercial Fishing Licences Database

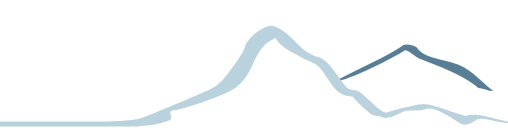
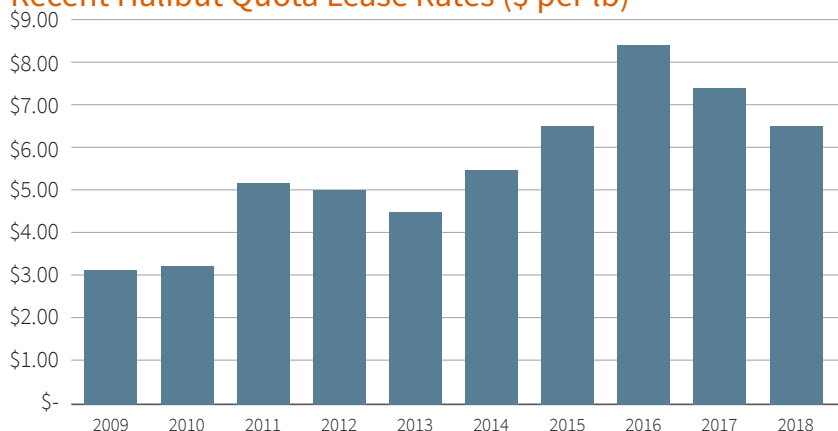
Halibut	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	252	147,000	37,044,000
Modern Style	89	268,000	23,852,000
Total	341	178,581	60,896,000

Licencing Trends

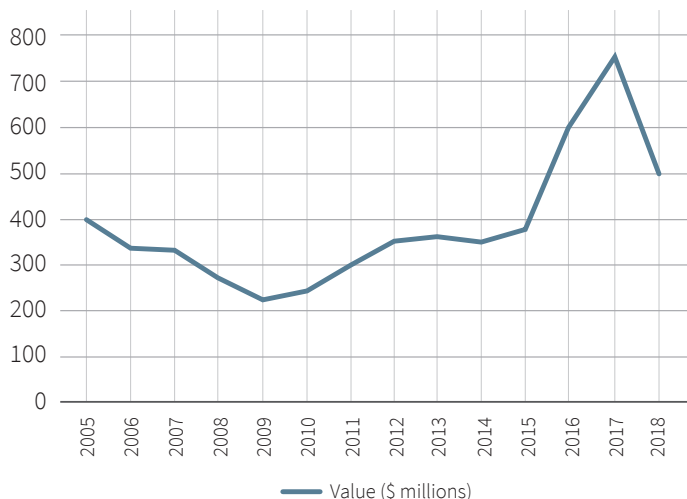
Recent L Licence and Halibut Quota Valuations (Nominal \$s – not adjusted for inflation)



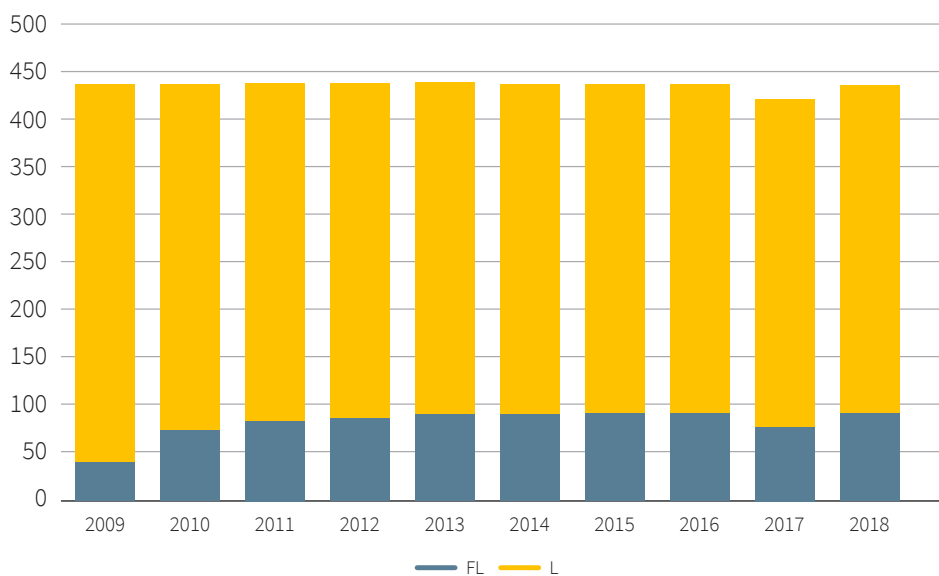
Recent Halibut Quota Lease Rates (\$ per lb)



Aggregate Value of L Licences and Halibut Quota (\$ millions by year)

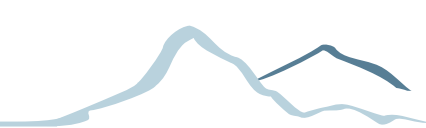


L Licence Category by Category



Outlook/ Commentary

- Industry experts indicate that a “ceiling” was hit in 2017 and subsequently the price of halibut quota and licences have fallen.
- Lease rates as low as \$5/lb have been seen in 2018 although rates seem to be stabilizing at \$7/lb.



GROUND FISH - Sablefish

Background to Valuation

General	
Licence Designation	K
Nature of Licence	Vessel-based
# Commercial Licences	41
# Communal Commercial Licences	7
Area Licencing?	No
Stacking?	No
Competitive or Quota Management?	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	= 3 (quota)
Confidence in current year valuations	Low

Current Valuation

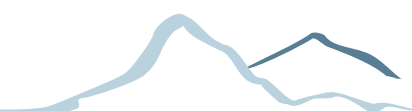
Licence & Quota Value at December 31, 2018

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
K Licence	41	250,000	10,250,000
Quota (j-cut) ¹	3,269,878	\$ 82	268,129,972
Total Value			278,379,972

Valuation Comments

- No licence transactions were uncovered for this year's valuation.
- The range on sablefish quota was \$80/lb - \$95/lb j-cut, or \$55/lb - \$64/lb round.
- Some industry experts believe that, prices will hold steady for the next year.

¹Round Pound quota is 4,839,419Lbs, J-cut quota is round pounds/1.48



Vessel Value

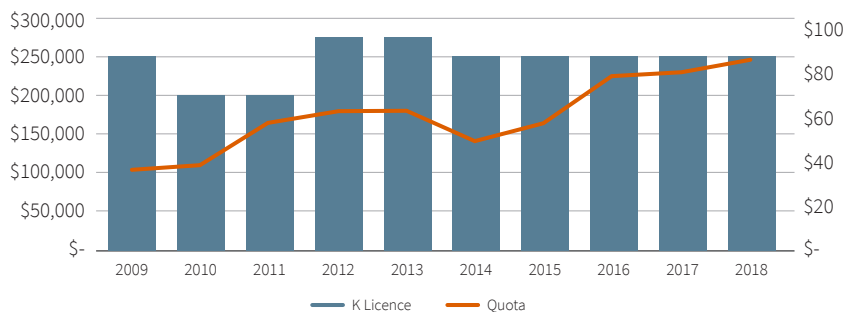
Aggregate fleet value is arrived at by using past data for average vessel value as a baseline; however, the number of vessels has been updated. Fleet vessel valuation is imprecise and uses imprecise incomplete DFO datasets. The number of licenced vessels is drawn from two data sources:

- DFO’s Detailed Vessel Info Database
- DFO’s Pacific Region Commercial Fishing Licences Database

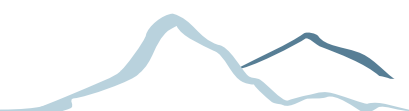
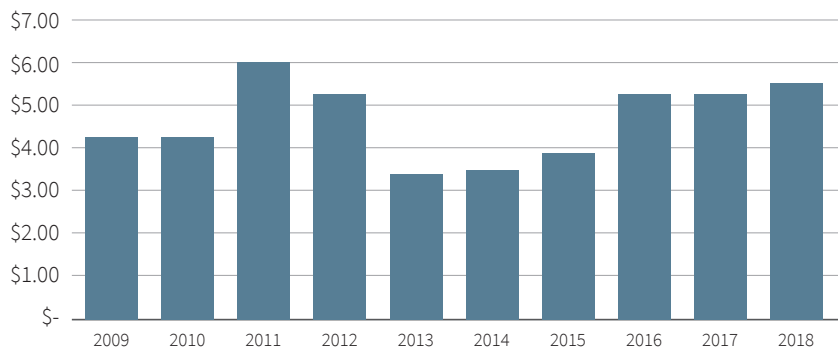
Sablefish	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	28	200,000	5,600,000
Modern Style	12	650,000	7,800,000
Total	40	335,000	13,400,000

Licencing & Quota Trends

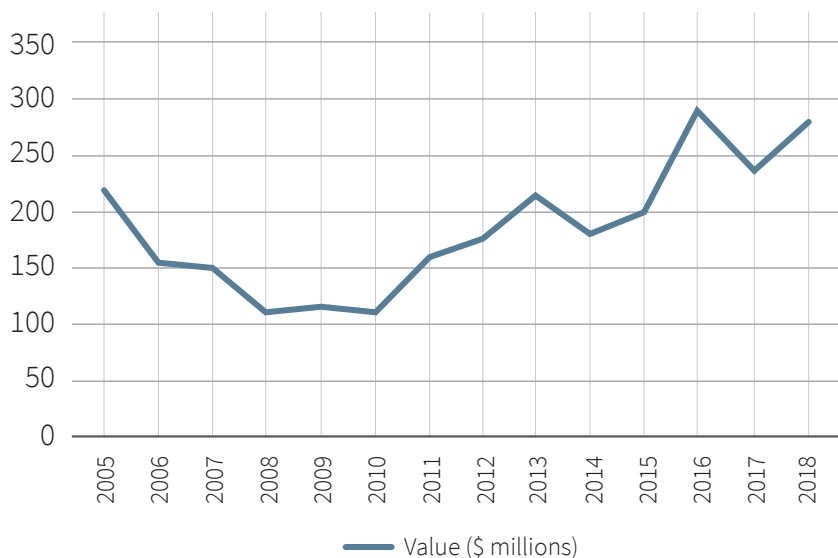
Recent K Licence and Sablefish Quota Valuations (Nominal \$s – not adjusted for inflation)



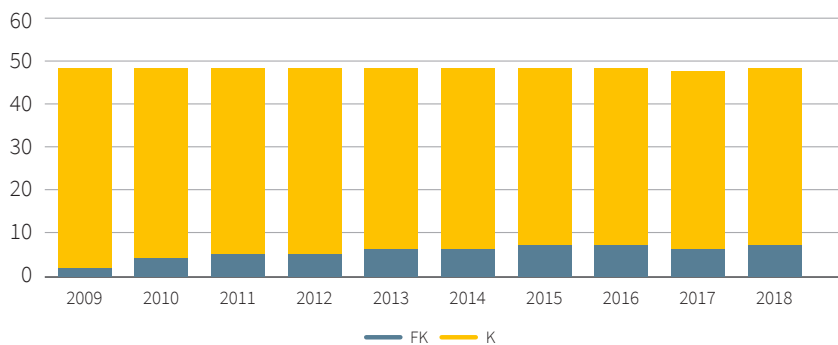
Recent Sablefish Quota Lease Rates



Aggregate Value of K Licences and Sablefish Quota (\$ millions by year)²



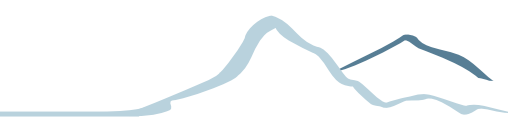
K Licence Counts by Category



Outlook/ Commentary

- Sablefish prices are holding steady after they briefly rose in early 2018 and then stabilized near the end of the season.
- There is not a lot of movement on K licences and they are rarely available on the market.
- The landed fish price of sablefish continues to be strong (comparable to halibut), but the costs associated with the fishery are higher. Further, there are fewer K licences, limiting the number of vessels that can actively fish.

²2016 and earlier data has not been reconciled for values associated with j-cut versus round pounds and will need to be validated in the 2019 Report



GROUND FISH - Groundfish Trawl

Background to Valuation

General	
Licence Designation	T
Nature of Licence	Vessel-based
# Commercial Licences	135
# Communal Commercial Licences	4
Area Licencing?	No
Stacking?	No
Competitive or Quota Management?	Quota

Valuation Parameters	
Licence	Per Foot
Quota	Per lb
Vessels	Yes
Amount of trading activity in category this year	Low
# Transactions underlying valuation	≈ 1 Licence, 3 quota
Confidence in current year valuations	Med

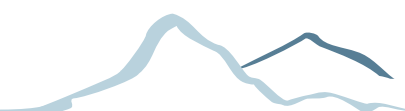
Current Valuation

Licence & Quota Value at December 31, 2018

Category	# Licences/ lbs Quota,	Value per Foot/ lbs quota	Average Licence (\$)	Total Value (\$)
T Licence	135	800	48,800	6,588,000
Uncut Quota	106,224,735	\$1.85		196,515,760
Hake Outside*	343,602,716	\$0.25		85,900,679
Total Value*	449,827,451			289,004,439

Valuation Comments

- Average licence value based on \$800 per foot and 61' vessel = \$48,800.
- The specific holding caps assigned to each T Licence greatly affect their value.



- Smaller T licences in the \$40,000 - \$50,000 range are often purchased just to hold quota where larger ones in the \$200,000 - \$400,000 range are sought after for larger holding caps and sold at a premium.
- The top 3 or 4 boats with large caps are in the millions value wise and are hard to evaluate as there are no new licences being created and they hold a large portion of the TAC.
- Only about 40 of the 132 licenced vessels are ever out on the water fishing.
- Many of the transactions on larger quantities of quota are based on % of the TAC rather than a \$/LB rate. Many intricacies to pricing especially in the Hake fishery as quotas fluctuate widely.

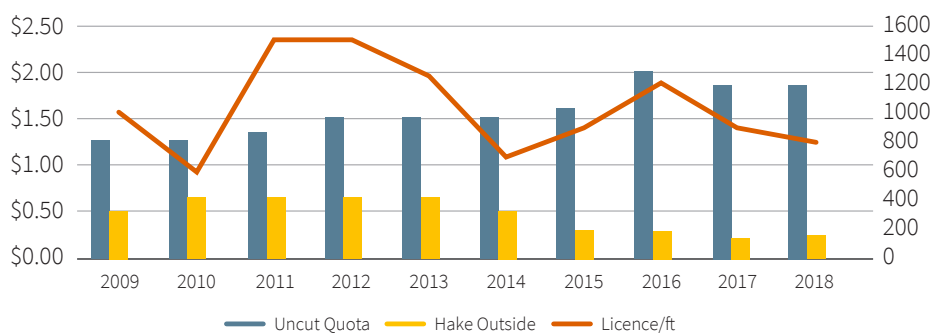
Vessel Value

Aggregate fleet value is arrived at by using past data for average vessel value as a baseline; however, the number of vessels has been updated and adjusted and duplicate vessel counts were identified as vessels often stack multiple licences. Fleet vessel valuation is imprecise and uses incomplete DFO datasets. The number of licenced vessels is drawn from DFO’s Pacific Region Commercial Fishing Licences Database

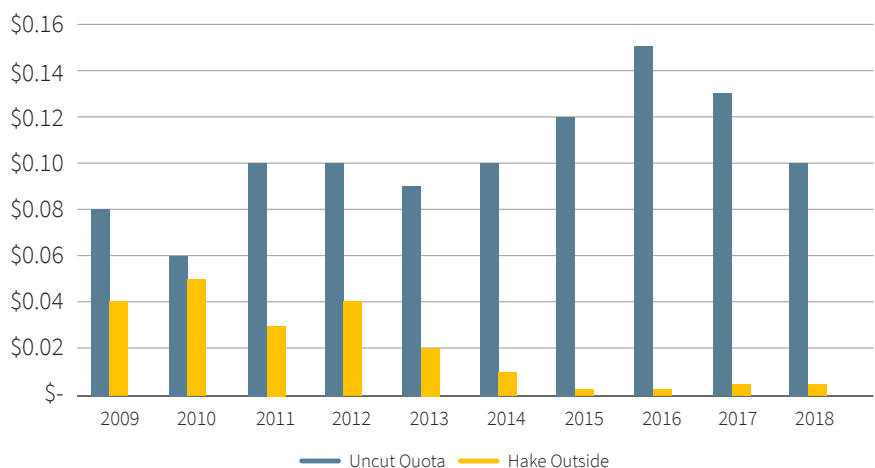
Trawl	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	98	440,000	43,022,222
Modern Style	34	1,375,000	47,055,556
Total	132	682,407	90,077,778

Licensing & Quota Trends

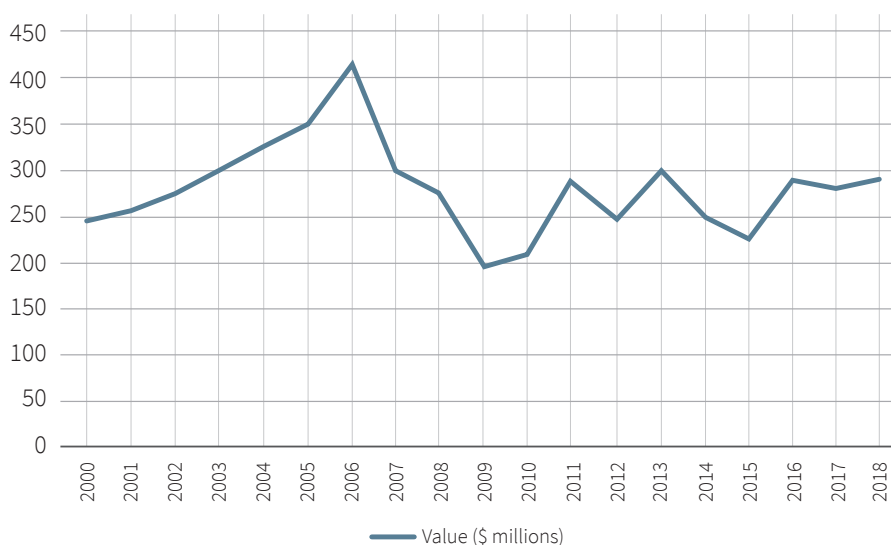
Recent T Licence and Trawl Quota Valuations (Nominal \$s – not adjusted for inflation)



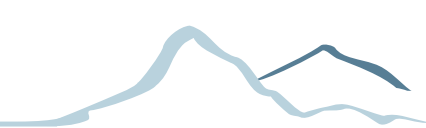
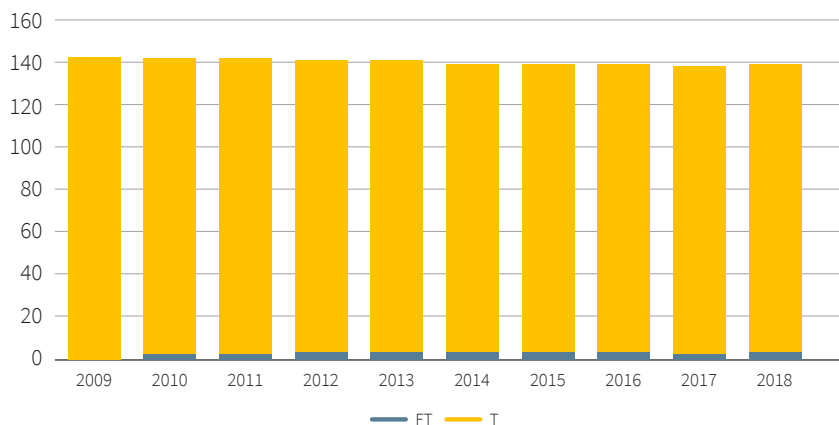
Recent Trawl Quota Lease Rates (\$ per lb)



Aggregate Value of T Licences and Trawl Quota (\$ millions by year)



T Licence Counts by Category



Outlook/ Commentary

- Frozen at sea trawlers are continuing to drive prices down on Hake due to larger margins.
- Quota for uncut should hold steady through next year.
- Only about ½ of the available TAC of Hake is caught and can expect an increase in the Frozen at Sea (FAS) fleet in coming years.
- Vessels less than 100 feet without significant holding caps are for the most part used for Tuna Fishing.

GROUND FISH - Rockfish Hook & Line

Background to Valuation

General	
Licence Designation	ZN
Nature of Licence	Party-based
# Commercial Licences	211
# Communal Commercial Licences	50
Area Licencing?	Yes
Stacking?	No
Competitive or Quota Management?	Quota

Valuation Parameters	
Licence	Per Licence
Quota	n/a
Vessels	Yes
Amount of trading activity in category this year	Low
# Transactions underlying valuation	≈ 4
Confidence in current year valuations	Low

Current Valuation

Licence & Quota Value at December 31, 2018

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
ZN Inside	53	40,000	2,120,000
ZN Outside	158	280,000	44,240,000
ZN Total	211	219,716	46,360,000

Valuation Comments

- Very few ZN licence transactions were uncovered as not many typically change hands.
- The outside ZN in particular does not often move as it is coveted for its bycatch quota.
- The quota for the Rockfish species is allocated under the Groundfish Quota although quota can be transferred between Hook and Line and Trawl.



Vessel Value

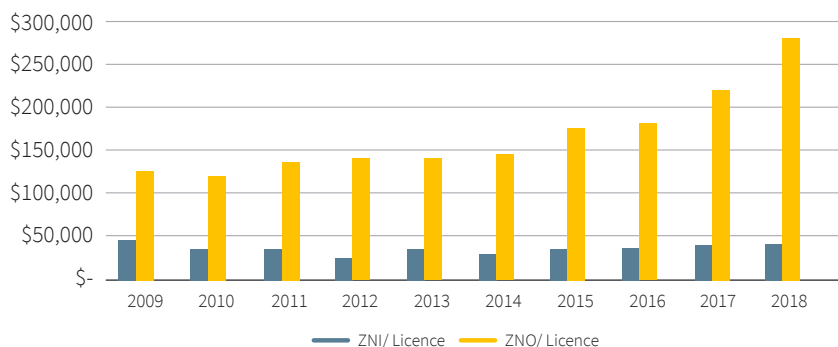
Aggregate fleet value is arrived at by using past data for average vessel value as a baseline; however, the number of vessels has been updated. The data set for 2018 excluded the counts for duplicate vessels that often stack multiple licences. Fleet vessel valuation is imprecise and uses imprecise, incomplete DFO datasets. The number of licenced vessels is drawn from DFO's Pacific Region Commercial Fishing Licences Database.

ZN Outside	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	93	136,000	12,585,348
Modern Style	49	286,000	14,145,753
Total	142	188,247	26,731,101

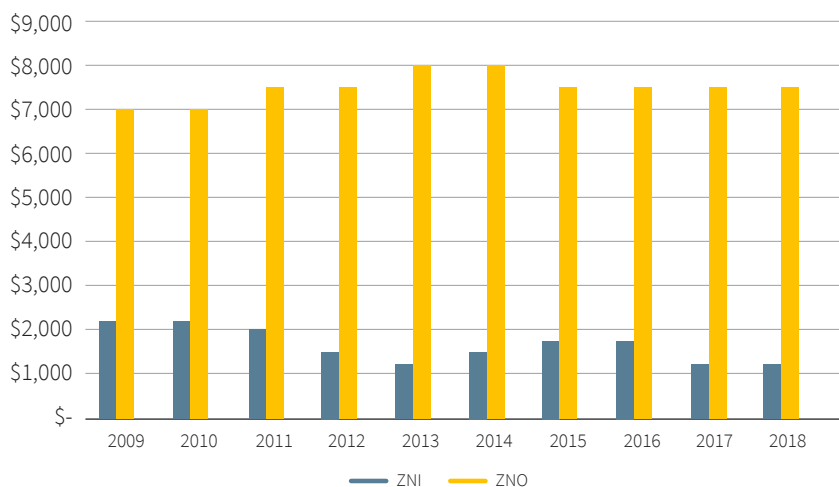
ZN Inside	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	5	75,000	391,011
Modern Style	3	196,000	577,684
Total	8	118,700	968,695

Licencing Trends

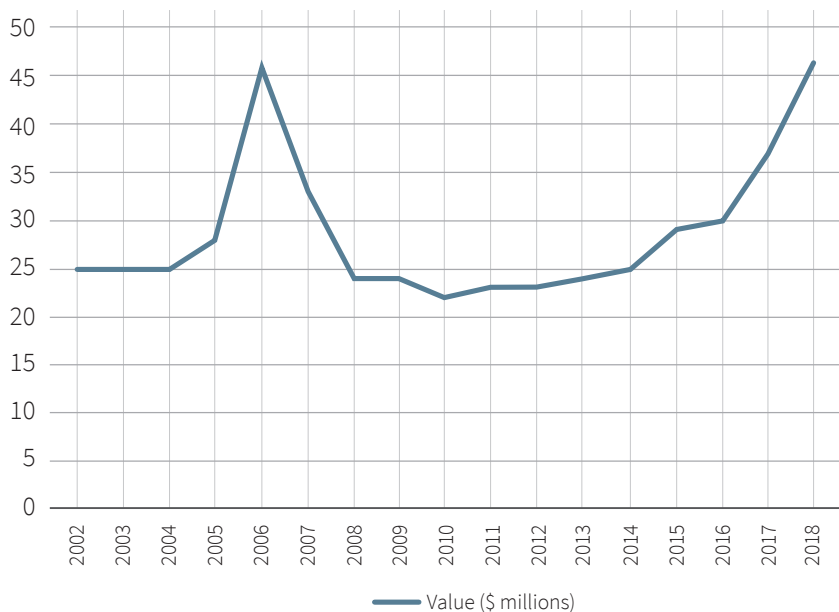
Recent ZN Licence Valuations (Nominal \$s – not adjusted for inflation)



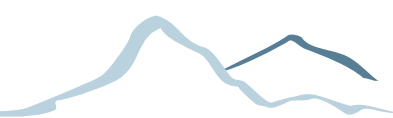
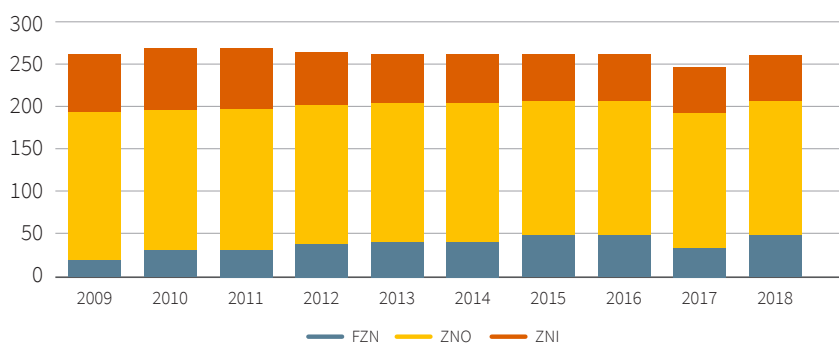
Recent ZN Lease Rates (\$)



Aggregate Value of ZN Licences (\$ millions by year)



ZN Licence Counts by Category



Outlook/ Commentary

- Due to stock concerns for some rockfish species, ZN outside licences (and their bycatch) are highly coveted and basically a requirement to fish halibut.
- No licence holders let the ZN outside licences go as they need them for bycatch in their other fisheries.
- This licence is particularly important in the halibut fishery – and for long lining.
- Demand is very high for these licences as it was in the mid 2000s. Fishers require these licences and associated quota (through the Groundfish Quota) to be able to succeed in the halibut fishery. However, not many of these licences come up as most holders require them for their own fishery.

GROUND FISH – Lingcod and Dogfish

Background to Valuation

Lingcod and dogfish are managed under an IVQ program where the permanent and temporary trades of quota is permitted. These fisheries 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

About 4 transactions were uncovered for this report with values averaging around \$15 per lb.

Quota Value at December 31, 2018

Category	Lbs of quota	Value/ Lb	Total Value
Lingcod Quota (H&L)	2,484,768	\$15	\$37,271,520

- Lingcod leases in the hook and line fishery were in the 30-40 cents per lb range.
- The difference in lease rates can be attributed to the difference in cost of catching lingcod in different areas.
- The WCVI is the most efficient lingcod harvest area for the hook & line fleet, while the north coast poses logistical challenges.

Dogfish

No transactions were uncovered for this report but values from the previous year were ranging between \$0.11 – \$0.12 and the prices have not changed significantly.

Quota Value at December 31, 2018

Category	Lbs of quota	Value/ Lb	Total Value
Dogfish Quota (H&L)	18,889,012	\$0.12	\$2,266,681

The dogfish fishery has not been very active and there was virtually no lease value again this year. The dogfish fishery struggles with challenging economics including logistics of getting product to market as well as low demand.

- The east coast of Canada holds a competitive advantage in this fishery because of the higher volume and proximity to market.
- No processors in BC that have secured markets overseas for the full utilization required to compete.

SHELLFISH – Prawn by Trap

Background to Valuation

General	
Licence Designation	W
Nature of Licence	Vessel-based
# Commercial Licences	187
# Communal Commercial Licences	60
Area Licencing?	No
Stacking?	Yes (traps)
Competitive or Quota Management?	Competitive

Valuation Parameters	
Licence	Per Foot
Quota	n/a
Vessels	Yes
Amount of trading activity in category this year	Med
# Transactions underlying valuation	≈ 7
Confidence in current year valuations	Med

Current Valuation

Licence & Quota Value at December 31, 2018

Category	# Licences	Value/ Foot (\$)	Total Value (\$)
W Licences	187	21,786	149,513,179

Valuation Comments

- Average licence value based on \$21,786 per foot and 36.7' vessel = \$799,546.
- There is a wide range in values in W licence transactions because they often include vessels and fishing gear.
- Short licences trade for higher-per-foot values than longer ones, though longer licences still have a higher overall value.

Licence Length (feet)	Value	Value per foot
30	\$700,000	\$23,333
42	\$850,000	\$20,238

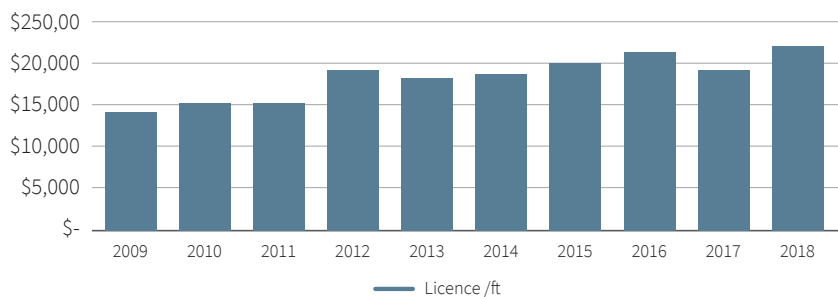
Vessel Value

Aggregate fleet value is arrived at by using past data for average vessel value as a baseline; however, the number of vessels has been updated. The data set for 2018 excluded the counts for duplicate vessels that often stack multiple licences. Fleet vessel valuation is imprecise and uses incomplete datasets. The number of licenced vessels is drawn from DFO’s Pacific Region Commercial Fishing Licences Database.

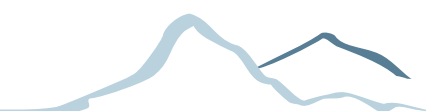
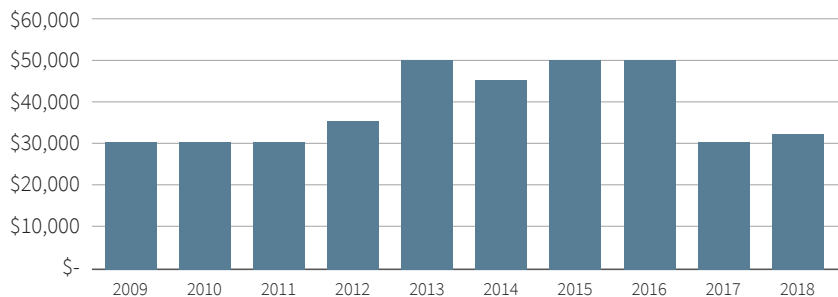
Prawn	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	112	162,000	18,144,000
Modern Style	73	325,000	23,725,000
Total	185	226,319	41,869,000

Licensing Trends

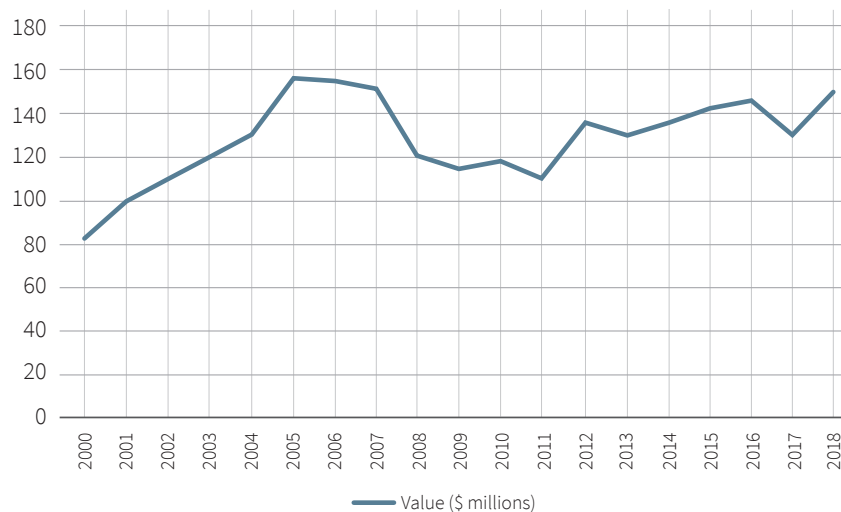
Recent W Licence Valuations (Nominal \$s – not adjusted for inflation)



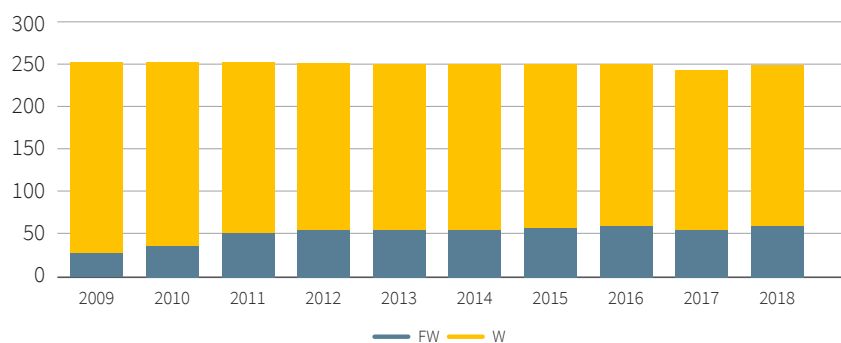
Recent W Licence Lease Rates (\$)



Aggregate Value of W Licences (\$ millions by year)



W Licence Country by Category



Outlook/ Commentary

Prices for prawns were strong, especially for the fresh market. Licence value is expected to go up again this coming year as stock assessment and landings for 2018 improved from previous seasons.



SHELLFISH – Crab

Background to Valuation

General	
Licence Designation	R
Nature of Licence	Vessel-based
# Commercial Licences	189
# Communal Commercial Licences	32
Area Licencing?	7 areas
Stacking?	No
Competitive or Quota Management?	Competitive

Valuation Parameters	
Licence	Per Foot
Quota	n/a
Vessels	Yes
Amount of trading activity in category this year	Low-Med
# Transactions underlying valuation	≈ 6
Confidence in current year valuations	Med

Current Valuation

Licence Value at December 31, 2018

Category	# Licences	Value/ Foot (\$)	Total Value (\$)
R Licences	189	25,000	146,475,000 ³

Valuation Comments

- Average licence value based on \$25,000 per foot and 31' vessel = \$775000.
- Licences vary by length with longer licences holding a higher total value but a lower value per foot.
- The transactions researched ranged from \$20,000/ ft - \$40,000/ ft.

³Based on an average 31' vessel

- Crab licences lease in the \$30,000 to \$40,000 range; however, due to restrictions associated with vessel-based licences, they can be difficult to lease in general.
- Values range widely by area for crab licences:
 - » Areas A, E, and I are the highest value
 - » Areas B, G, and H are middle value
 - » Area J is lowest value

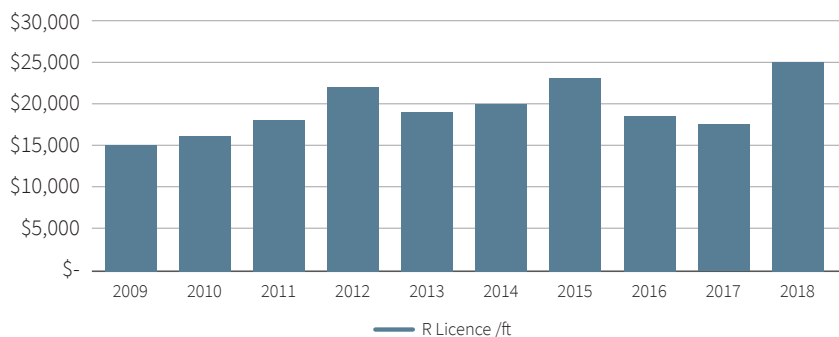
Vessel Value

Aggregate fleet value is arrived at by using past data for average vessel value as a baseline; however, the number of vessels has been updated. The data set for 2018 excluded the counts for duplicate vessels that often stack multiple licences. Fleet vessel valuation is imprecise and uses incomplete DFO datasets. The number of licenced vessels is drawn from DFO’s Pacific Region Commercial Fishing Licences Database.

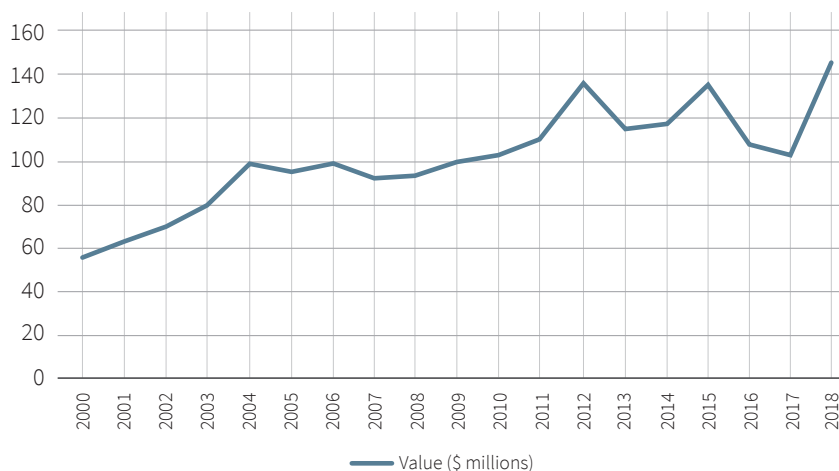
Crab	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	87	144,000	12,528,000
Modern Style	101	350,000	35,350,000
Total	188	254,670	47,878,000

Licencing Trends

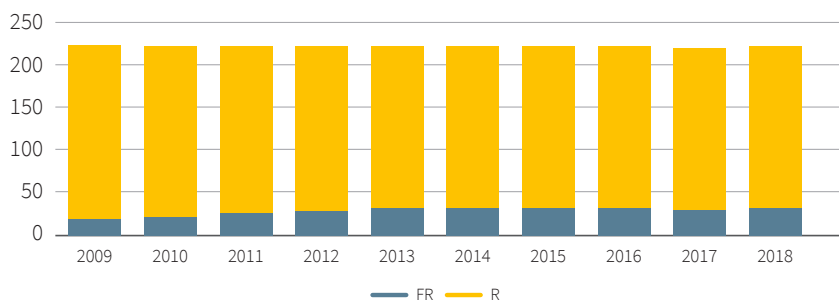
Recent R Licence Valuations (Nominal \$s – not adjusted for inflation)



Aggregate Value of R Licences (\$ millions by year)



R Licence Counts by Category



Outlook/ Commentary

- R licences will remain difficult to come by as most people who own them are actively fishing them and reluctant to sell at current market value.
- Pricing is going up due to increased speculation.
- Small variations in length can allow vessels to stack more pots making licences vary in value.
- Some areas are more valuable than others and are reflected in the price.



SHELLFISH – Shrimp by Trawl

Background to Valuation

General	
Licence Designation	S
Nature of Licence	Vessel-based
# Commercial Licences	207
# Communal Commercial Licences	26
Area Licencing?	No
Stacking?	No
Competitive or Quota Management?	Competitive

Valuation Parameters	
Licence	Per Foot
Quota	n/a
Vessels	Yes
Amount of trading activity in category this year	Med
# Transactions underlying valuation	≈ 7
Confidence in current year valuations	Med

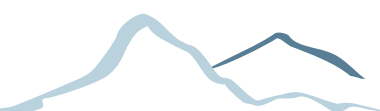
Current Valuation

Licence Value at December 31, 2018

Category	# Licences	Value/ Foot (\$)	Total Value (\$)
S Licences	207	1,000	8,642,250

Valuation Comments

- An average licence value based on a \$1,000 per foot valuation and a 41'9" average vessel length is \$41,900.
- For vessels over 40' selling in the \$60K range, for vessels under 40' go for around \$28K.
- The value per foot remains unchanged from last years valuation, but the market capitalization has decreased again due to available licences.
- The lease market for shrimp licences is still very weak.



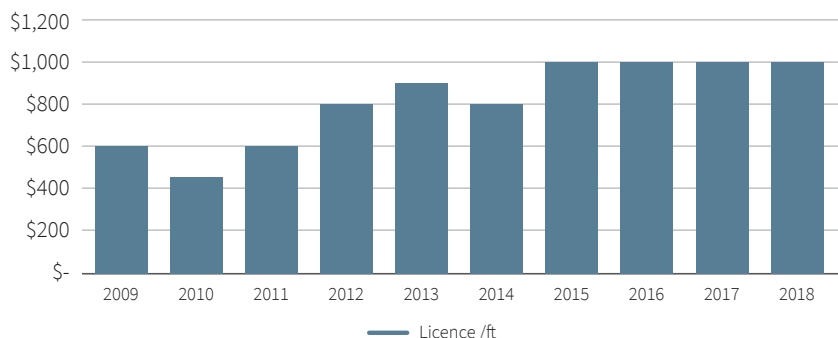
Vessel Value

Aggregate fleet value is arrived at by using past data for average vessel value as a baseline; however, the number of vessels has been updated. The data set for 2018 excluded the counts for duplicate vessels that often stack multiple licences. Fleet vessel valuation is imprecise and uses imprecise, incomplete DFO datasets. The number of licenced vessels is drawn from DFO's Pacific Region Commercial Fishing Licences Database.

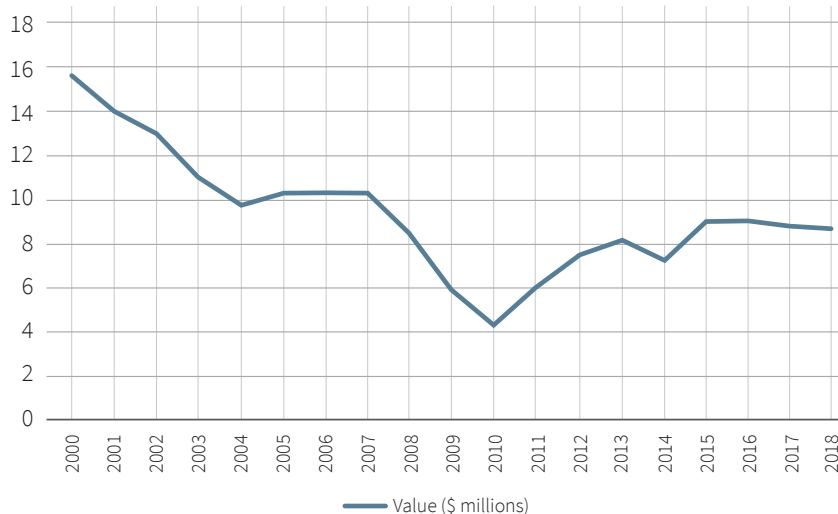
Shrimp Trawl	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	130	83,000	10,790,000
Modern Style	55	167,000	9,185,000
Total	185	107,973	19,975,000

Licencing Trends

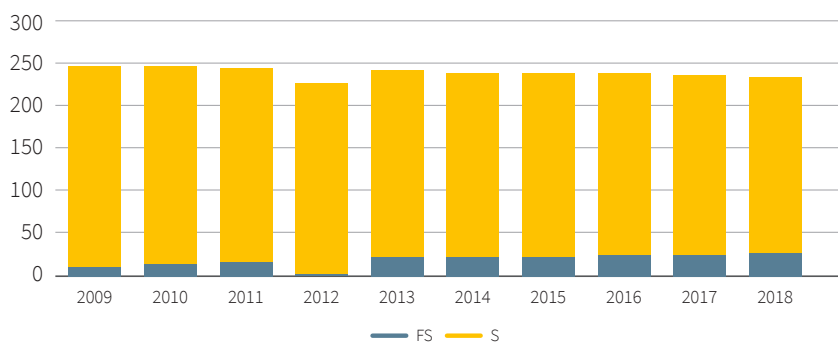
Recent S Licence Valuations (Nominal \$s – not adjusted for inflation)



Aggregate Value of S Licences (\$ millions by year)



S Licence Counts by Category



Outlook/ Commentary

- Industry experts have indicated they believe that shrimp licences valuations are going to remain near current levels for the foreseeable future, citing disputes between DFO and industry on the management of the fishery.
- More surveys and increased TAC may be possible.

SHELLFISH – Geoduck

Background to Valuation

General	
Licence Designation	G
Nature of Licence	Vessel-based
# Commercial Licences	50
# Communal Commercial Licences	5
Area Licencing?	3 areas
Stacking?	Yes
Competitive or Quota Management?	quota

Valuation Parameters	
Licence	Per Licence
Quota	Per Block
Vessels	Yes
Amount of trading activity in category this year	Low (Licences w/ 10 blocks)
Med (Single quota blocks)	≈ 7
# Transactions underlying valuation	≈ 1
Confidence in current year valuations	Low

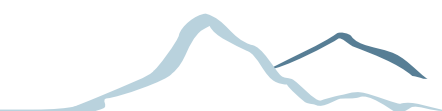
Current Valuation

Licence & Quota Value at December 31, 2018

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
G Licences (tab)	50	250,000	12,500,000
Quota Blocks	500	750,000	375,000,000
Total Value			387,500,000

Valuation Comments

- G tabs (licence only) have a \$250,000 average valuation.
- Quota block (1/10) values range from \$700,000 - \$800,000.
- By the contractors estimate, a G licence with 10 blocks of quota would have an approximate value of \$7.75M (\$250,000 licence plus \$7.50M for 10 quota blocks).



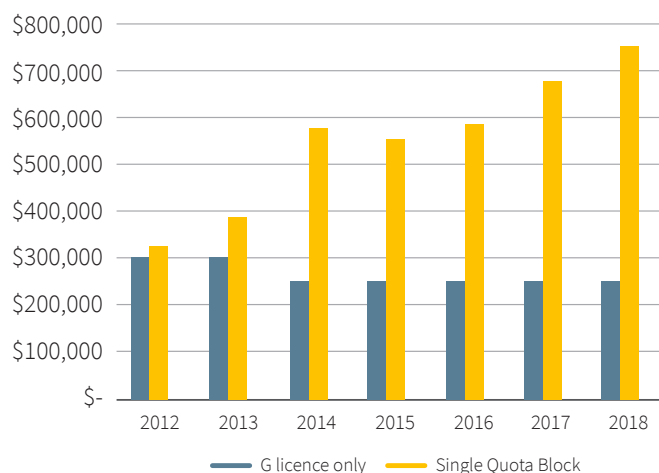
Vessel Value

Aggregate fleet value is arrived at by using past data for average vessel value as a baseline; however, the number of vessels has been updated. The data set for 2018 excluded the counts for duplicate vessels that often stack multiple licences. Fleet vessel valuation is imprecise and uses incomplete DFO datasets. The number of licenced vessels is drawn from DFO’s Pacific Region Commercial Fishing Licences Database.

Geoduck	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	23	108,000	2,527,200
Modern Style	22	264,000	5,702,400
Total	45	182,880	8,229,600

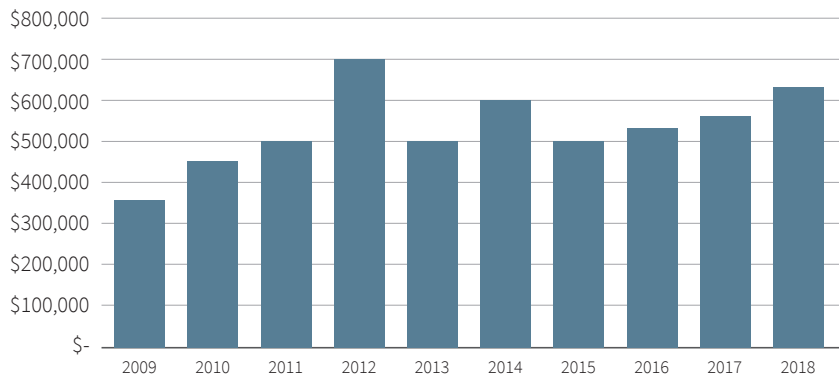
Licensing Trends

Recent G Licence and Geoduck Quota Block Valuations (Nominal \$s – not adjusted for inflation)

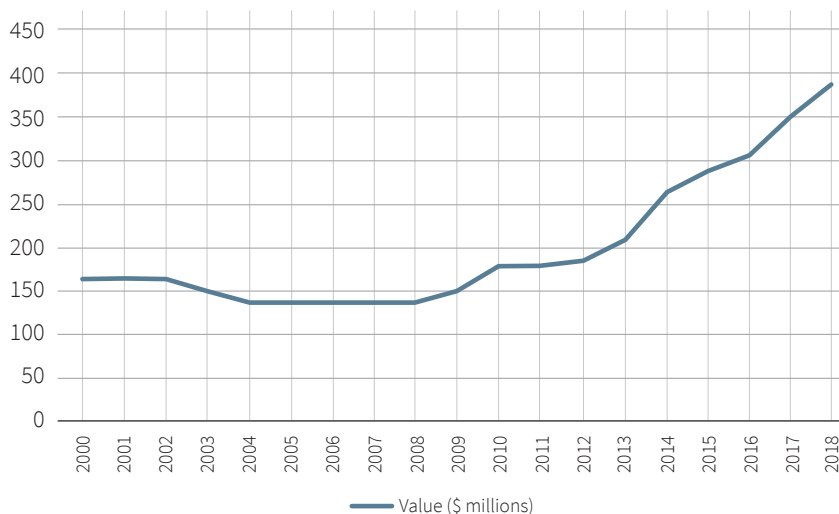


Recent G Licence Lease Rates

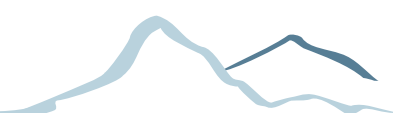
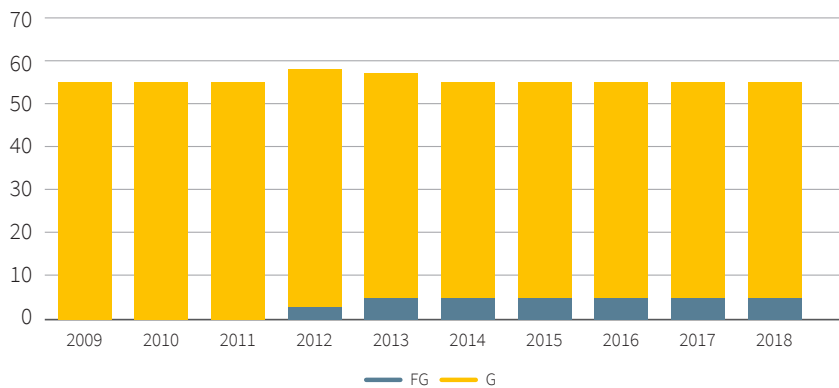
*The value trend for geoduck leases is shown below; the values shown are for a full G licence (including 10 quota blocks). The lease for a single quota block would be 1/10th of the values shown.



Aggregate Value of G Licences (\$ millions by year)



G Licence Counts by Category



Outlook/ Commentary

- The geoduck fishery's sustained high level of profitability has attracted large amounts of investment, but appeared to slow in 2018 due to lack of available licences or quota.
- Demand remains high for licences and quota access, but the market is very tight as not many people are looking to sell.
- Likely that the price of quota has peaked and could start to stabilize in 2019.
- Leasing average value is estimated at \$11/LB although \$17/LB rates were recorded in the 2018 season.

SHELLFISH – Sea Cucumber

Background to Valuation

General	
Licence Designation	ZD
Nature of Licence	Party-based
# Commercial Licences	84
# Communal Commercial Licences	1
Area Licencing?	4 areas
Stacking?	Yes
Competitive or Quota Management?	Quota

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 valuations	Med

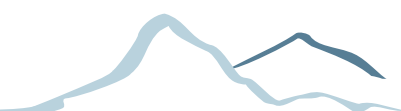
Current Valuation

Licence Value at December 31, 2018

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
ZD Licences	84	1,300,000	109,200,000

Valuation Comments

- Transactions researched for this report varied from \$1,200,000 - \$1,400,000.
- There are a lot of people looking to purchase but not a lot of licence holders looking to sell.



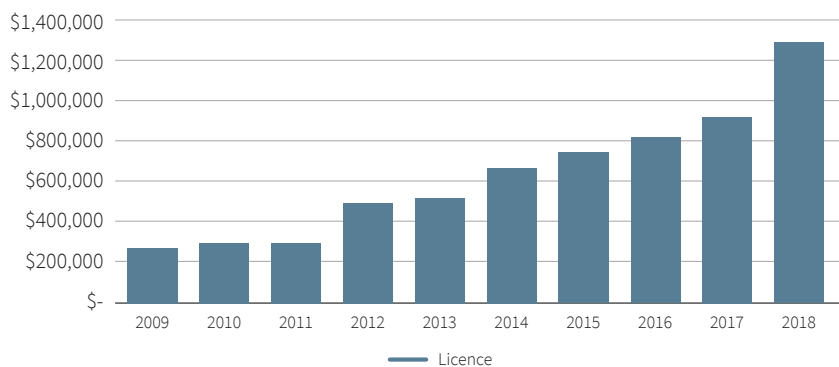
Vessel Value

Aggregate fleet value is arrived at by using past data for average vessel value as a baseline; however, the number of vessels has been updated. The data set for 2018 excluded the counts for duplicate vessels that often stack multiple licences. Fleet vessel valuation is imprecise and uses incomplete DFO datasets. The number of licenced vessels is drawn from DFO’s Pacific Region Commercial Fishing Licences Database.

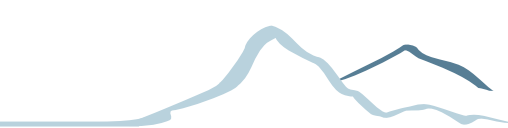
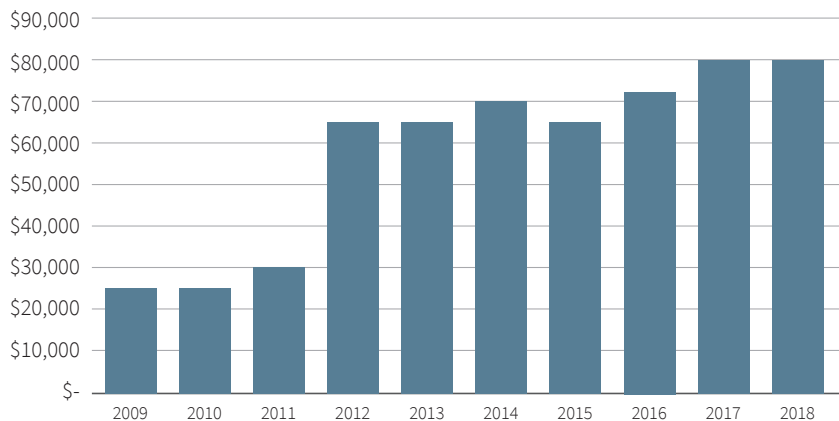
Sea Cucumber	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	7	108,000	806,400
Modern Style	9	264,000	2,252,800
Total	16	191,200	3,059,200

Licencing Trends

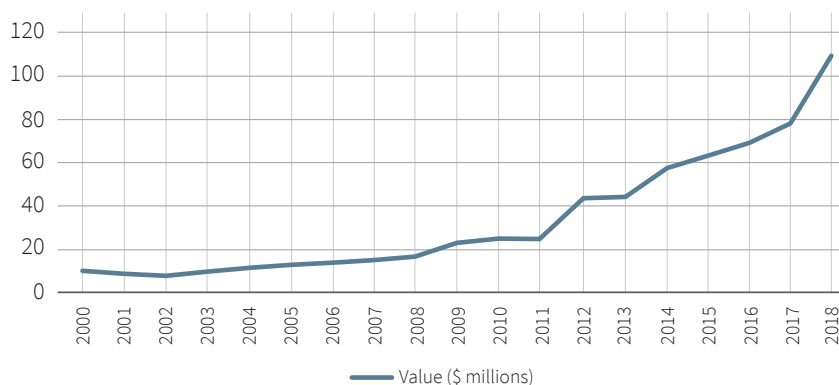
Recent ZD Licence Valuations (Nominal \$s – not adjusted for inflation)



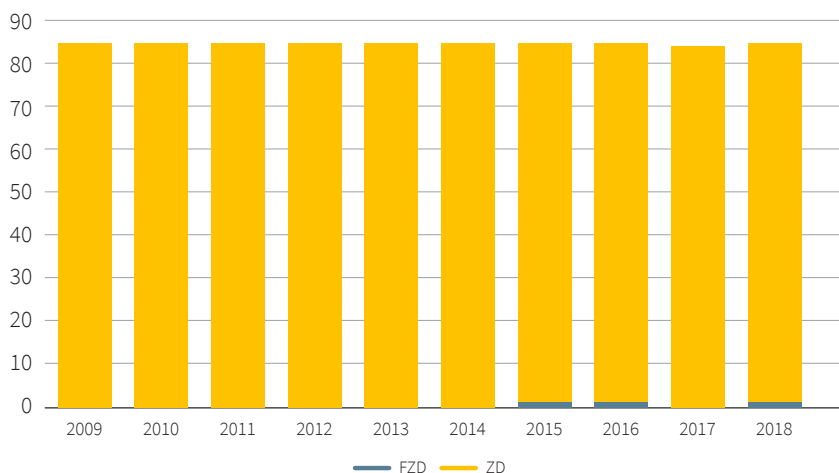
Recent ZD Licence Lease Rates



Aggregate Value of ZD Licences (\$ millions by year)

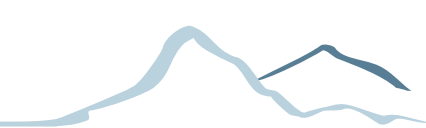


ZD Licence Counts by Category



Outlook/ Commentary

- The market for sea cucumber licences is notoriously tight and there are lots of people looking to buy but not many licence holders looking to sell.
- Some industry experts see a disconnect between the price of the licence and the profitability of the fishery, still appears to be driven by speculative overseas investors.
- Demand remains strong for access to this fishery and a ZD licence compliments all the other dive fisheries well and therefore retains its value for the dive fleet.



SHELLFISH – Red Sea Urchin

Background to Valuation

General	
Licence Designation	ZC
Nature of Licence	Party-Based
# Commercial Licences	80
# Communal Commercial Licences	30
Area Licencing?	2 Areas
Stacking?	Yes
Competitive or Quota Management?	Quota

Valuation Parameters	
Licence	Per Licence
Quota	n/a
Vessels	Yes
Amount of trading activity in category this year	Low
# Transactions underlying valuation	≈ 4
Confidence in current year valuations	Med

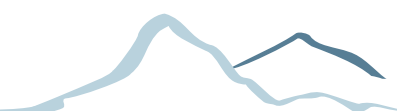
Current Valuation

Licence & Quota Value at December 31, 2018

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
ZC Licences	80	300,000	24,000,000

Valuation Comments

- Transactions for ZC licences uncovered were much higher than 2016 and 2017 values.
- Transactions varied widely from a low of \$240,000 at the beginning of the year, to \$350,000 at the end of the year.



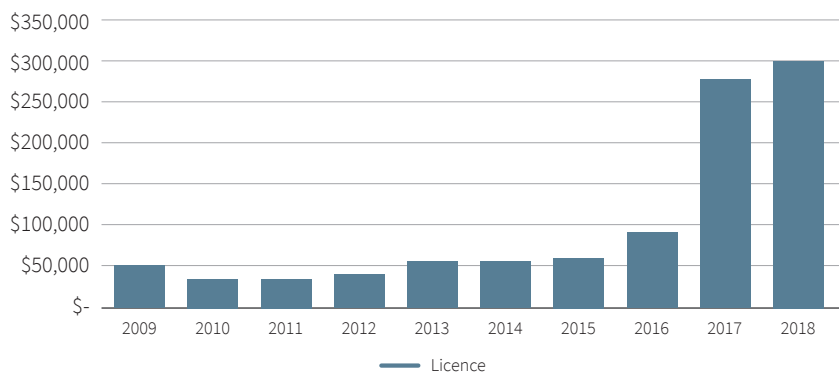
Vessel Value

Aggregate fleet value is arrived at by using past data for average vessel value as a baseline; however, the number of vessels has been updated. The data set for 2018 excluded the counts for duplicate vessels that often stack multiple licences. Fleet vessel valuation is imprecise and uses incomplete DFO datasets. The number of licenced vessels is drawn from DFO’s Pacific Region Commercial Fishing Licences Database.

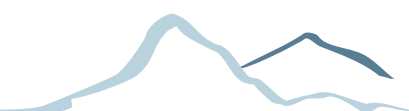
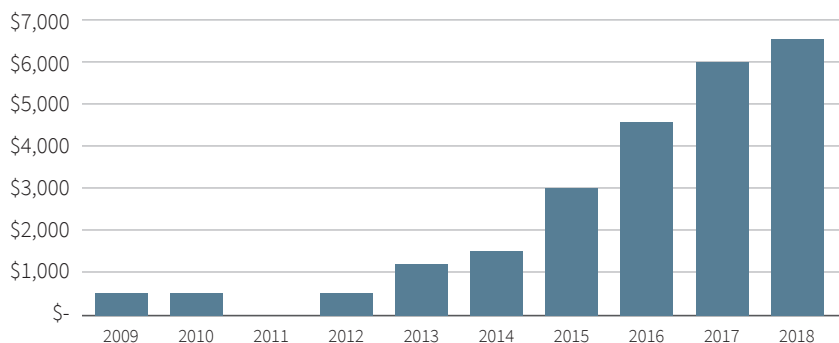
Red Sea Urchin	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	13	81,000	1,036,800
Modern Style	19	200,000	3,840,000
Total	32	152,400	4,876,800

Licencing Trends

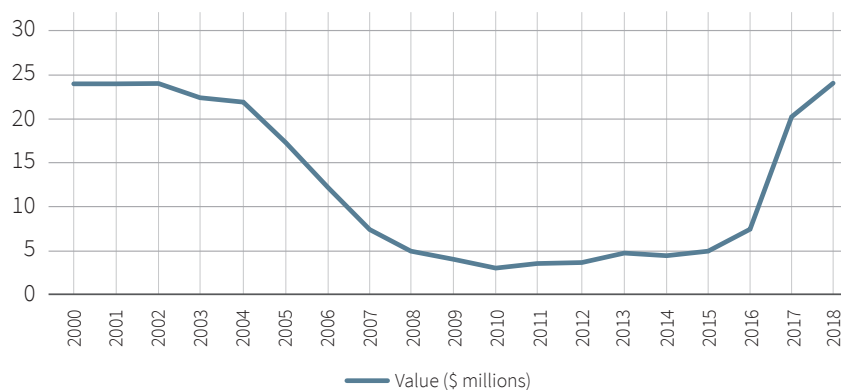
Recent ZC Licence Valuations (Nominal \$s – not adjusted for inflation)



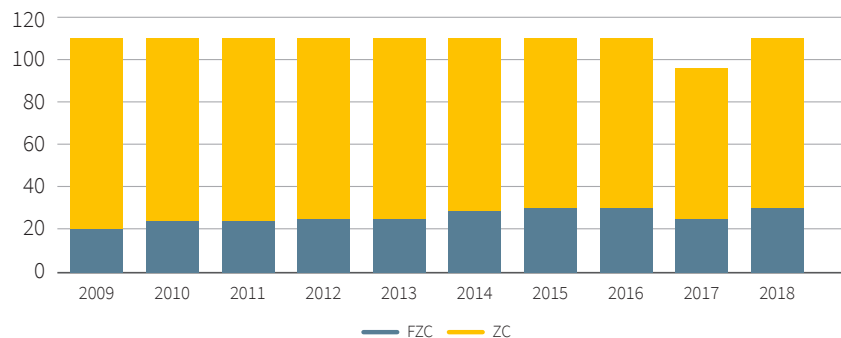
Recent ZC Licence Lease Rates



Aggregate Value of ZC Licences (\$ millions by year)

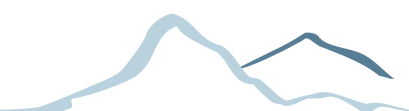


ZC Licence Counts by Category



Outlook/ Commentary

- There seems to be a disconnect with the profitability of this fishery and current licence values.
- Few licences are being placed on the market resulting in upward price pressure in this licence category.
- Speculative overseas markets driving prices upwards.



SHELLFISH – Green Sea Urchin

Background to Valuation

General	
Licence Designation	ZA
Nature of Licence	Party-Based
# Commercial Licences	48
# Communal Commercial Licences	1
Area Licencing?	Yes
Stacking?	Yes
Competitive or Quota Management?	Quota

Valuation Parameters	
Licence	Per Licence
Quota	n/a
Vessels	Yes
Amount of trading activity in category this year	Low
# Transactions underlying valuation	= 2
Confidence in current year valuations	Med

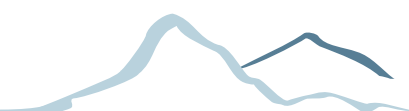
Current Valuation

Licence & Quota Value at December 31, 2018

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
ZA Licences	48	100,000	4,800,000

Valuation Comments

- Only two market transactions were uncovered for the purposes of this report.
- There is a demand to buy these licences, but nobody is looking to sell.



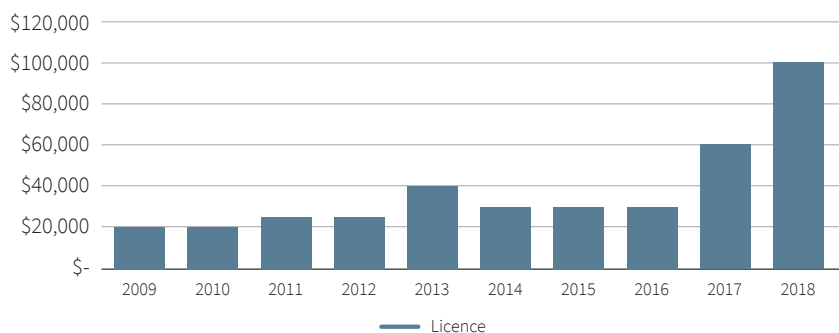
Vessel Value

Aggregate fleet value is arrived at by using past data for average vessel value as a baseline; however, the number of vessels has been updated. The data set for 2018 excluded the counts for duplicate vessels that often stack multiple licences. Fleet vessel valuation is imprecise and uses incomplete datasets. The number of licenced vessels is drawn from DFO's Pacific Region Commercial Fishing Licences Database.

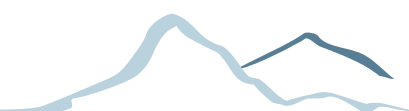
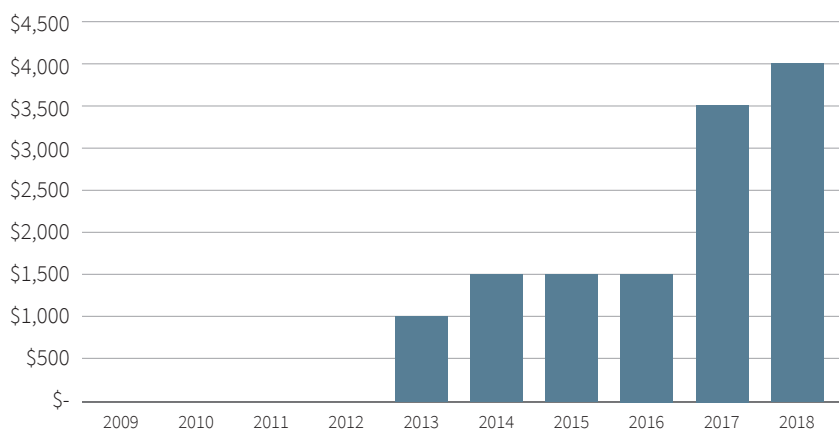
Green Sea Urchin	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	4	81,000	324,000
Modern Style	7	200,000	1,400,000
Total	11	156,727	1,805,000

Licencing Trends

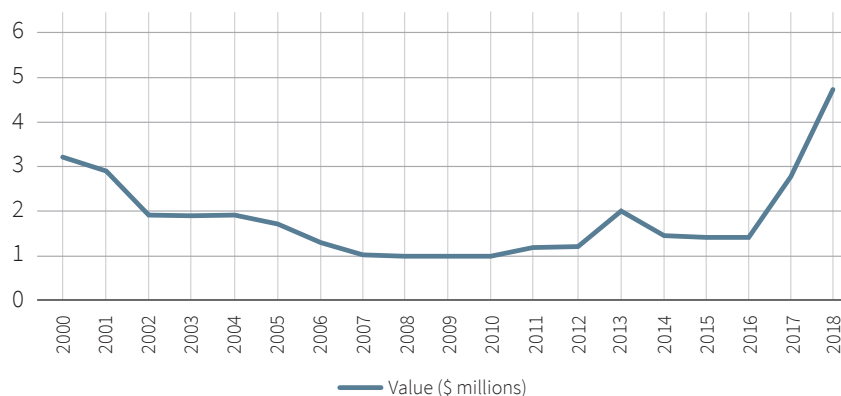
Recent ZA Licence Valuations (Nominal \$s – not adjusted for inflation)



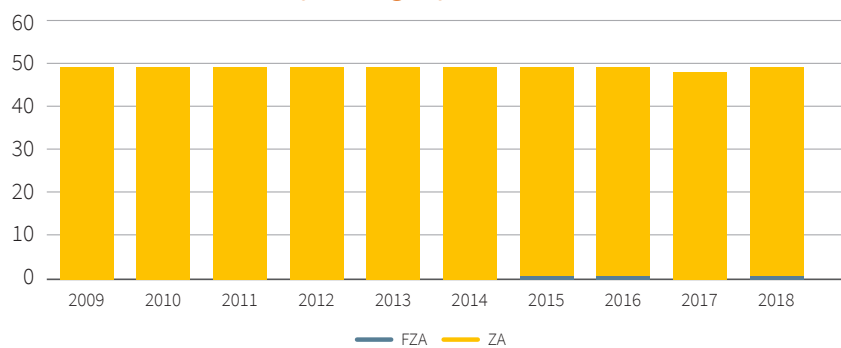
Recent ZA Licence Lease Rates (\$)



Aggregate Value of ZA Licences (\$ millions by year)

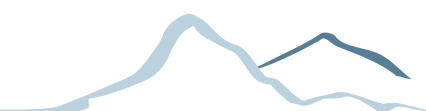


ZA Licence Counts by Category



Outlook/ Commentary

- Prices are surging in this fishery and lease rates have followed suit.
- Green sea urchins flown live into Asian markets have allowed industry to fetch better prices.



SHELLFISH – Euphausiid

Background to Valuation

General	
Licence Designation	ZF
Nature of Licence	Party-Based
# Commercial Licences	16
# Communal Commercial Licences	1
Area Licencing?	No
Stacking?	No
Competitive or Quota Management?	Quota

Valuation Parameters	
Licence	Per Licence
Quota	n/a
Vessels	Yes
Amount of trading activity in category this year	None
# Transactions underlying valuation	None
Confidence in current year valuations	Very Low

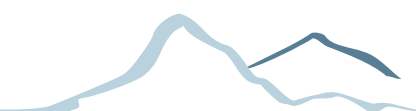
Current Valuation

Licence & Quota Value at December 31, 2018

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
ZF Licences	16	40,000	640,000

Valuation Comments

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



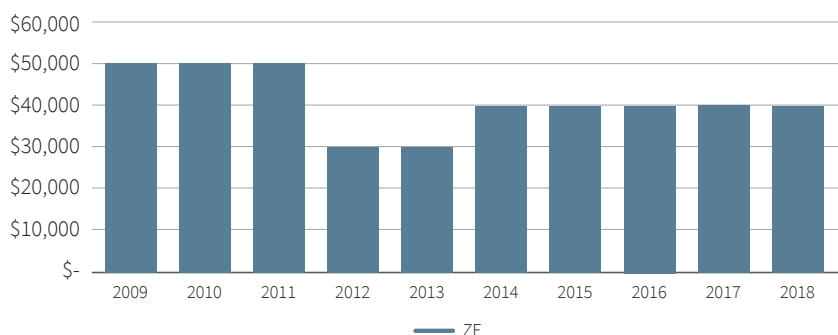
Vessel Value

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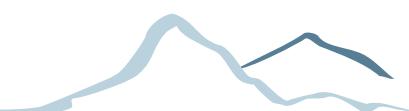
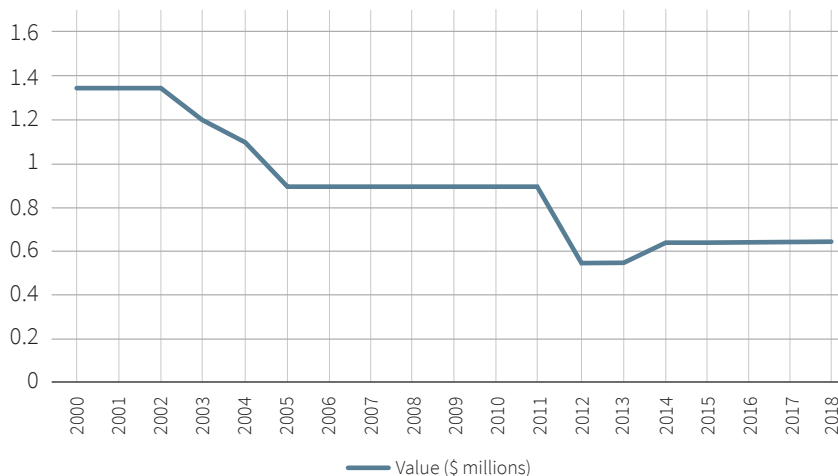
Euphausiid	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	1	184,000	207,000
Modern Style	2	646,000	1,211,250
Total	3	472,750	1,418,250

Licencing Trends

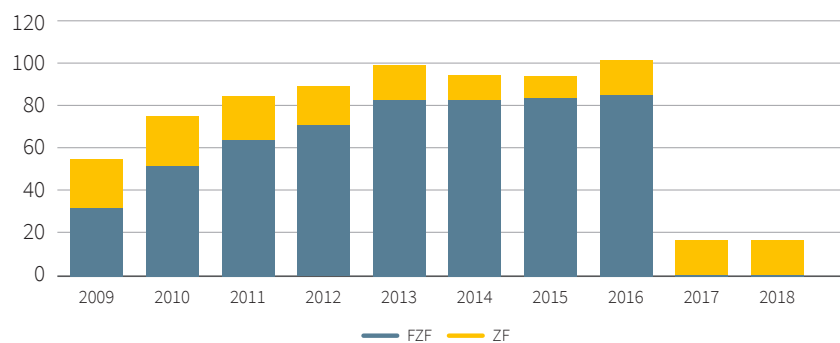
Recent ZF Licence Valuations (Nominal \$s – not adjusted for inflation)



Aggregate Value of ZF Licences (\$ millions by year)



ZF Licence Counts by Category⁴



Outlook/ Commentary

- 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.

⁴DFO Licensing through anecdotal information indicates that euphausiid licence counts have never exceeded 19 therefore the historical data is suspect and will be reconciled in the 2019 report.

Schedule II Species

Background to Valuation

General	
Licence Designation	C
Nature of Licence	Vessel-based
# Commercial Licences	313
# Communal Commercial Licences	14
Area Licencing?	No
Stacking?	No
Competitive or Quota Management?	Various

Valuation Parameters	
Licence	Per Foot
Quota	n/a
Vessels	No
Amount of trading activity in category this year	Med
# Transactions underlying valuation	≈ 8
Confidence in current year valuations	Med

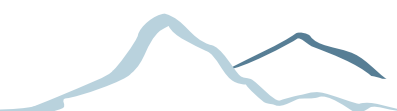
Current Valuation

Licence Value at December 31, 2018

Category	# Licences	Value/ Foot (\$)	Total Value (\$)
C Licences	313	500	5,321,000

Valuation Comments

- Transactions for C licences ranged from about \$200 - \$600 per foot.
- Average licence value based on \$500 per foot and a 34' vessel = \$17,000.
- These licences are sometimes acquired and then relinquished to allow un-marrying of vessel-based licences.



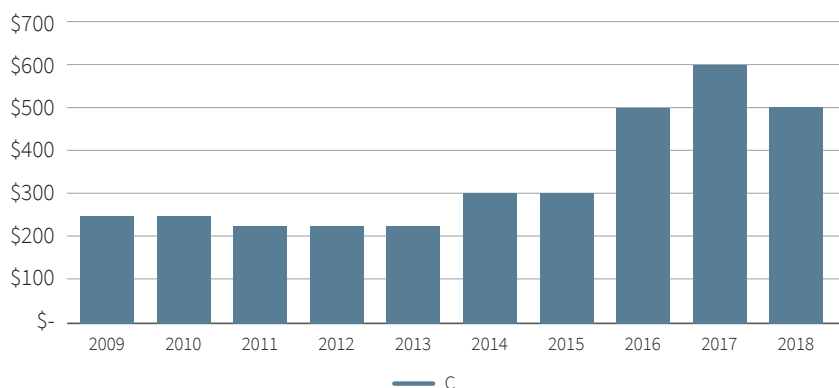
Vessel Value

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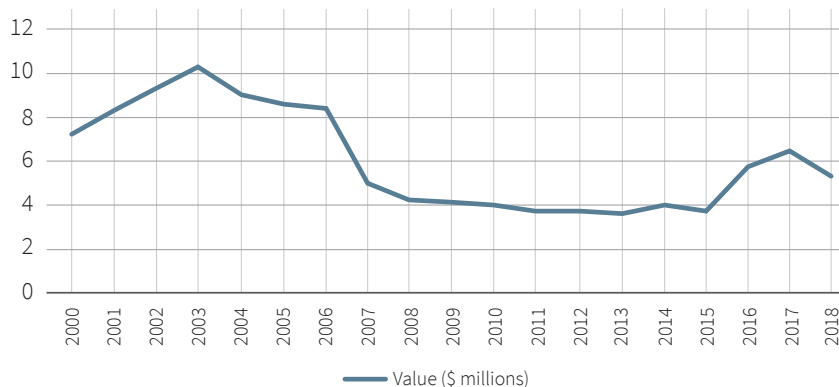
Schedule II	# Vessels	Avg. Vessel Value (\$)	Aggregate Value (\$)
Classic Style	136	40,000	5,429,902
Modern Style	129	143,000	18,483,100
Total	265	90,238	23,913,002

Licencing Trends

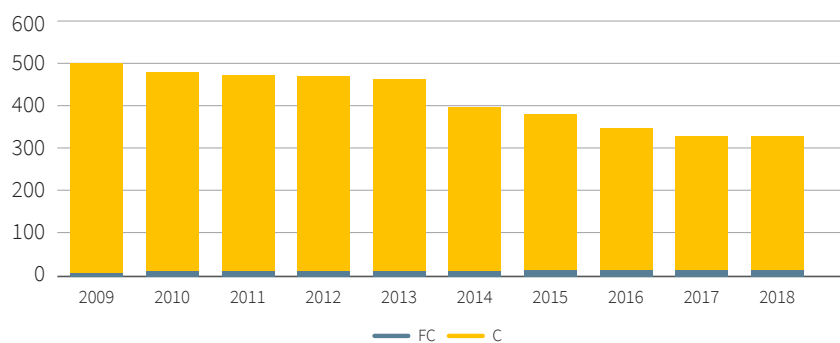
Recent C Licence Valuations (Nominal \$s – not adjusted for inflation)



Aggregate Value of C Licences (\$ millions by year)



C Licence Counts by Category



Outlook/ Commentary

- As the pool of C licences declines, there may be upward pressure on prices.

