

# Analysis of Commercial Fishing Licence, and Quota Values

As at December 31, 2016

Prepared for Fisheries and Oceans Canada,  
Pacific Region

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Castlemain

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# Introduction

On an annual basis, with few exceptions, over the last 20 years, the Treaty and Aboriginal Policy Directorate 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. Due to constraints surrounding available data, the valuation of vessels has always been imprecise, as noted in previous reports, and the decision was made to not include vessel values in this years report.

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 years report contains an assessment of commercial fishing licence and quota values between January 1, 2016 and December 31, 2016.

Where possible, the valuations in this report are based on individual market transactions. Where no or few markets transactions could be uncovered, anecdotal information may have been used; and where no information could be uncovered, values from the 2015 study were relied upon. In short, this report is the contractors best effort to encapsulate 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 "gut feeling" in 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.

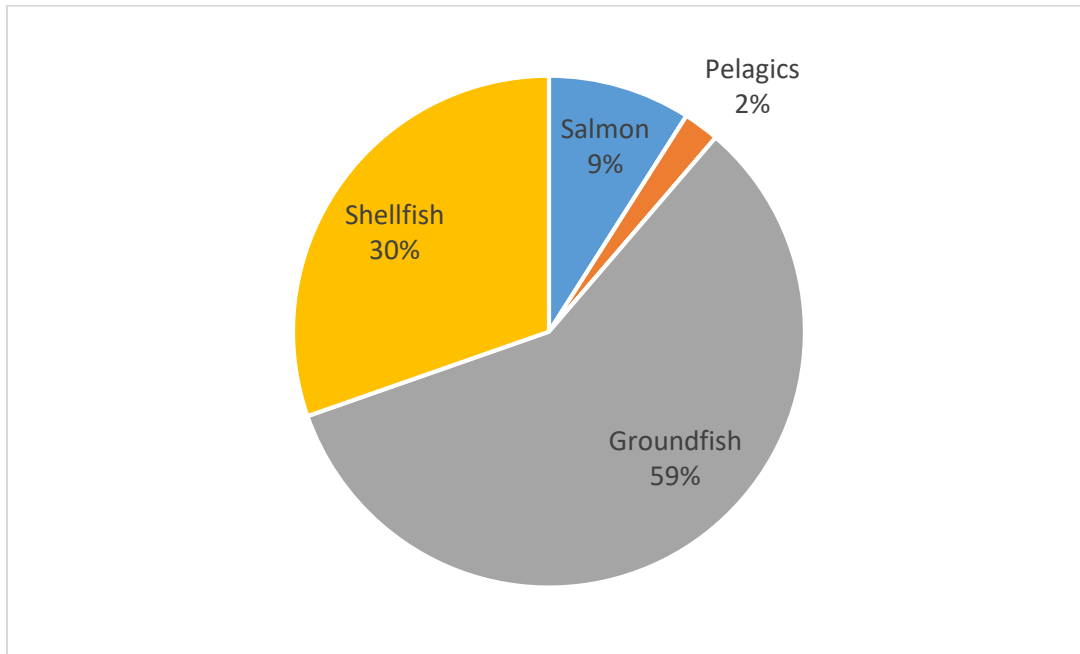
## SUMMARY: YEAR ENDING DECEMBER 31, 2016

The market capitalization of pacific commercial fishing licenses and quota at December 31, 2016 is summarized in the following table:

Fishery Grouping	Fishery	License Desc.	# of Licenses	Average Licence Value (\$)	Aggregate Licence Value (\$)	Aggregate Quota Value (\$)	Total License & Quota Value (\$)
Salmon	Salmon Seine	AS	210	\$ 423,214	\$ 88,874,940	\$ -	\$ 88,874,940
	Salmon Gillnet	AG	824	\$ 64,320	\$ 52,999,680	\$ -	\$ 52,999,680
	Salmon Troll	AT	348	\$ 144,568	\$ 50,309,664	\$ -	\$ 50,309,664
Pelagics	Herring - Roe Seine	HS	241	\$ 49,025	\$ 11,815,025	\$ -	\$ 11,815,025
	Herring - Roe Gillnet	HG	994	\$ 30,621	\$ 30,437,274	\$ -	\$ 30,437,274
	Herring - Spawn on Kelp	J	34	\$ 175,000	\$ 5,950,000	\$ -	\$ 5,950,000
	Tuna	USA 68	110	n/a	n/a	\$ -	n/a
	Sardine	ZS	25	n/a	n/a	\$ -	n/a
Groundfish	Halibut	L	343	\$ 64,200	\$ 22,020,600	\$ 583,204,430	\$ 605,225,030
	Sablefish	K	41	\$ 250,000	\$ 10,250,000	\$ 280,787,850	\$ 291,037,850
	Groundfish Trawl	T	135	\$ 74,666	\$ 10,079,910	\$ 280,786,670	\$ 290,866,580
	Rockfish Inside	ZN	54	\$ 36,000	\$ 1,944,000	\$ -	\$ 1,944,000
	Rockfish Outside	ZN	158	\$ 180,000	\$ 28,440,000	\$ -	\$ 28,440,000
	Lingcod Hook & Line		n/a	n/a	n/a	\$ 23,356,838	\$ 23,356,838
	Dogfish Hook & Line		n/a	n/a	n/a	\$ 1,888,901	\$ 1,888,901
Shellfish	Prawn	W	189	\$ 770,000	\$145,530,000	\$ -	\$ 145,530,000
	Crab	R	189	\$ 573,500	\$108,391,500	\$ -	\$ 108,391,500
	Shrimp	S	212	\$ 41,900	\$ 8,882,800	\$ -	\$ 8,882,800
	Geoduck	G	50	\$6,100,000	\$305,000,000	\$ -	\$ 305,000,000
	Sea Cucumber	ZD	84	\$ 825,000	\$ 69,300,000	\$ -	\$ 69,300,000
	Red Sea Urchin	ZC	80	\$ 91,000	\$ 7,280,000	\$ -	\$ 7,280,000
	Green Sea Urchin	ZA	48	\$ 30,000	\$ 1,440,000	\$ -	\$ 1,440,000
	Euphausid	ZF	16	\$ 40,000	\$ 640,000	\$ -	\$ 640,000
<b>Schedule II</b>	Schedule II Species	C	332	\$ 17,000	\$ 5,644,000	\$ -	\$ 5,644,000
					<b>\$965,229,393</b>	<b>\$ 1,170,024,689</b>	<b>\$2,135,254,082</b>

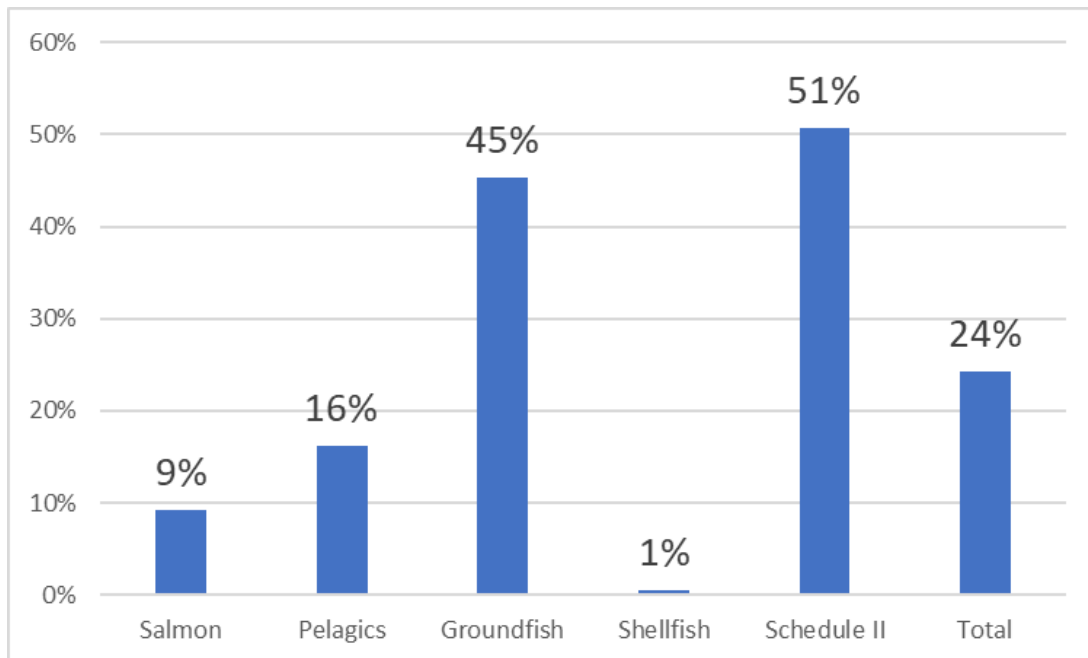


## 2016 Market Value by Fishery Grouping

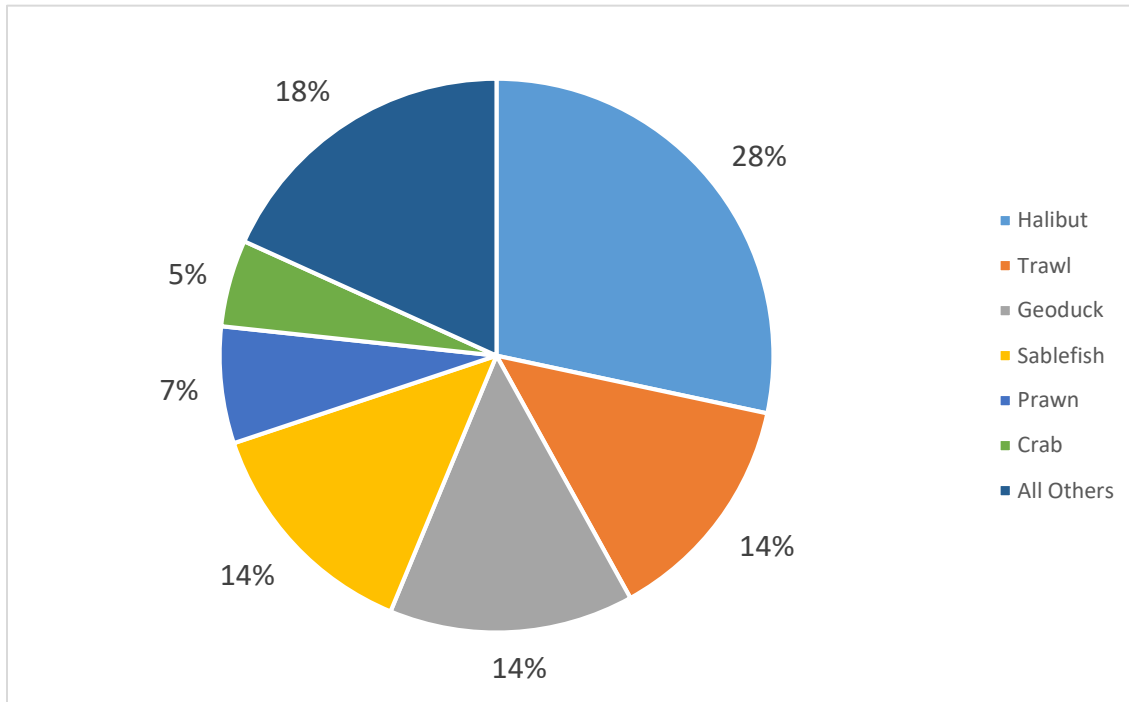


Total capitalization increased by 24% in 2016 compared to 2015, with the percentage change for each fishery grouping shown in the following chart:

## Percentage Change in Market Value by Fishery Grouping – 2016 vs 2015

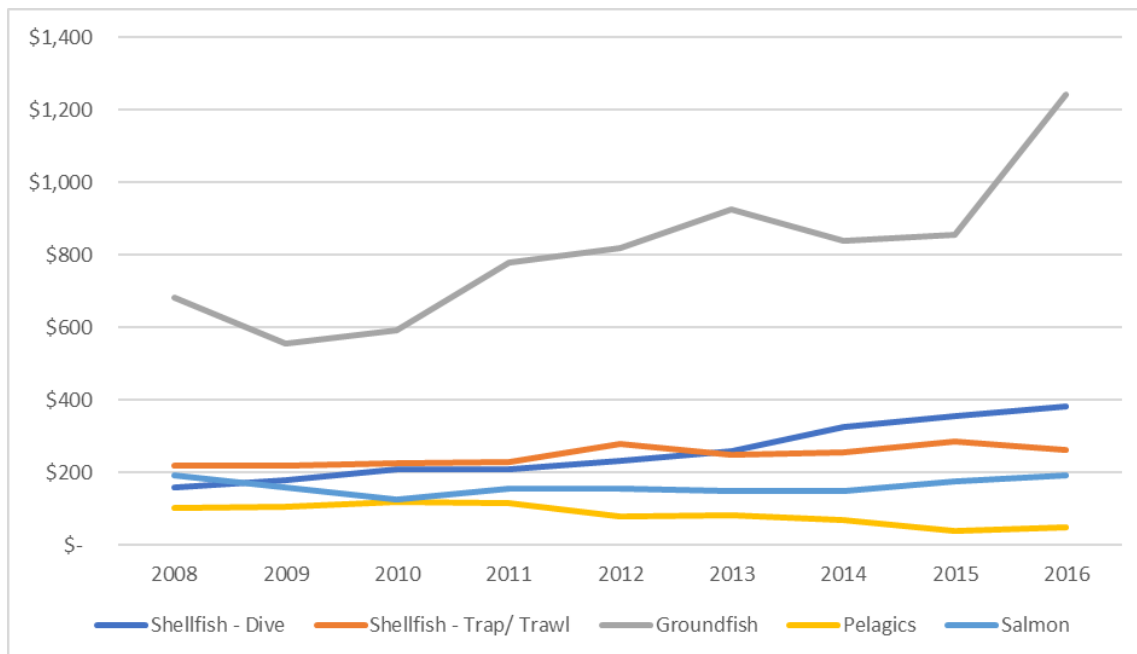


## Top Six Fisheries Relative to Overall Licence and Quota Values (\$ millions)



Aggregate values by fishing category are shown in the chart above.

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



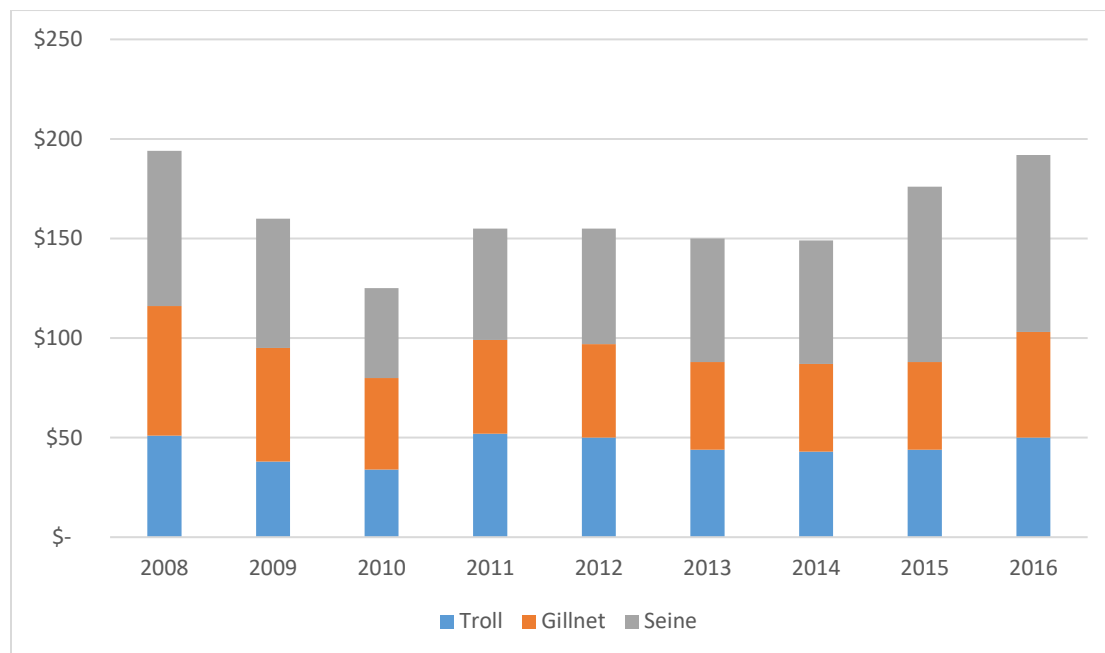
The total value of licences and quota at December 31, 2016 is about \$2.1 billion, which is about 24% higher than the \$1.7 billion valuation for 2015.

Significant value was gained in the groundfish fisheries, driven mainly by 60% growth in halibut value, a 45% gain in sablefish value, and a 29% gain in groundfish trawl value.

## SALMON

The 2015 report showed a spike in Seine licence values, while the 2016 report uncovered few salmon seine transactions and reports a similar value to 2015. Overall, salmon licence values have remained relatively stable over the last number of years. The following chart shows a summary of historical salmon licence values:

### Aggregate Salmon Licence Value (\$ millions)



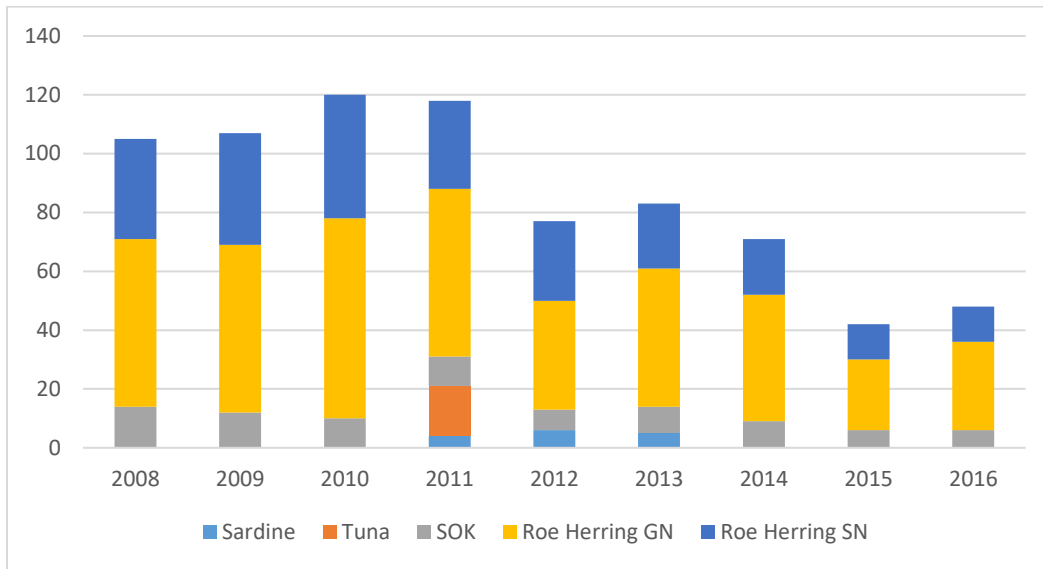
## PELAGICS

After a multi-year declining trend in licence values in this fishery grouping through 2015, 2016 saw a 16% gain in value. This growth was driven by a rise in gillnet licence value which saw a lot of activity this year in terms of licence market transactions.

Sardines have failed to materialize in BC waters for the fourth straight year, and the market for these licences are essentially non-existent. Further, the USA 68 (tuna) licences are very difficult to evaluate due to the lack of treaty between Canada and the USA, and the tenuous rights associated with the licence.

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

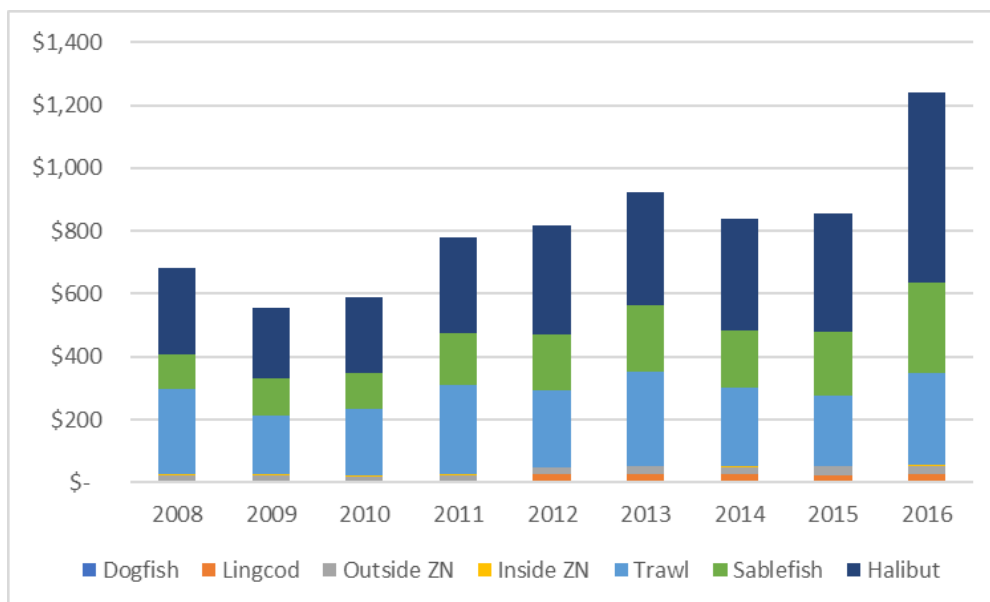
## Aggregate Pelagics Licence Value (\$ millions)



## GROUND FISH

Licence and quota values in the groundfish category grew by 45% in 2016 compared to 2015. This growth was driven by 60% growth in halibut value, a 45% gain in sablefish value, and a 29% groundfish trawl value. The substantial increases can also be partially attributed to the increases in quota in each of the fisheries. The following table provides a snapshot of the groundfish category:

## Aggregate Groundfish Licence and Quota Value (\$ millions)

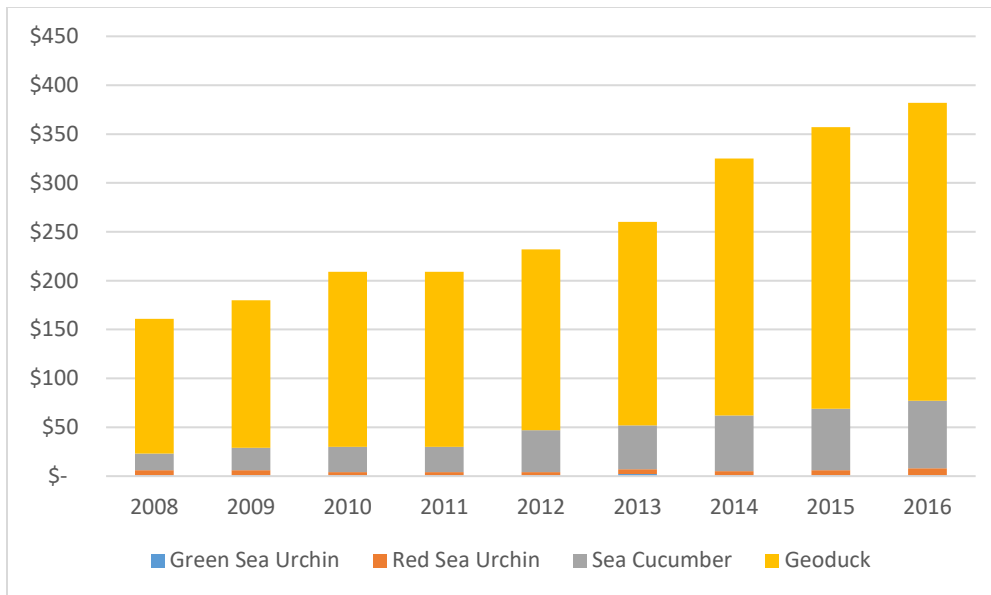




## SHELLFISH

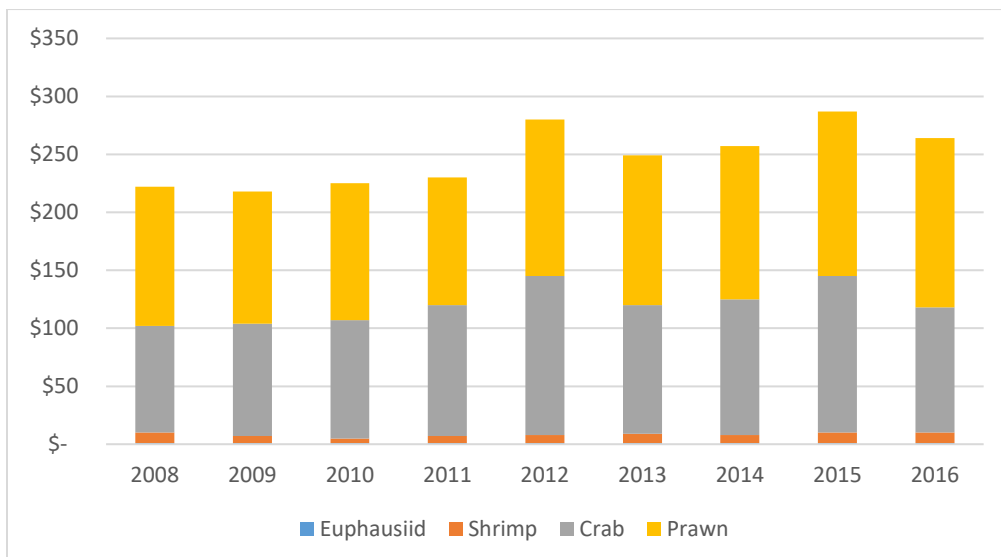
The shellfish dive fisheries showed modest growth in 2016, with gains seen in three of the five fisheries. Geoduck value grew by 10% and early transactions in 2017 indicate that the value has accelerated further. The following table provides a snapshot of shellfish diver fisheries:

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



Prawn saw modest growth of 3%, but the crab fishery dropped 20% from the 2015 valuation – although some of this drop could be attributed to the large differences in crab licence value based on area and length. The following table provides a summary of the shellfish trap and trawl fisheries:

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



## RATES OF RETURN – LEASING

The following table provides a summary of rates of return for leasing licences and quota that could be readily leased as at December 31, 2016:

<b>Fishery</b>	<b>Lease Rate</b>	<b>Quota/ Licence Valuation</b>	<b>Rate of Return</b>
Herring - Roe Seine	\$ -	\$ 49,025.00	0.0%
Herring - Roe Gillnet	\$ 250.00	\$ 30,621.00	0.8%
Halibut	\$ 8.40	\$ 95.00	8.8%
Sablefish	\$ 5.25	\$ 75.00	7.0%
Trawl - Groundfish	\$ 0.15	\$ 2.00	7.5%
Trawl - Offshore Hake	\$ 0.003	\$ 0.29	1.00%
Rockfish Inside	\$ 1,750.00	\$ 36,000.00	4.9%
Rockfish Outside	\$ 7,500.00	\$ 180,000.00	4.2%
Lingcod Hook & Line	\$ 0.36	\$ 9.40	3.8%
Dogfish Hook & Line	\$ -	\$ 0.10	0.0%
Prawn	\$ 52,000.00	\$ 770,000.00	6.8%
Geoduck	\$ 530,000.00	\$ 6,100,000.00	8.7%
Sea Cucumber	\$ 72,000.00	\$ 825,000.00	8.7%
Red Sea Urchin	\$ 4,550.00	\$ 91,000.00	5.0%
Green Sea Urchin	\$ 1,500.00	\$ 30,000.00	5.0%

Much of the info relied upon for the rates of return on leasing was anecdotal, and in some cases relied upon the return listed in the 2015 valuation.

# Methodology

## VALUATIONS PERFORMED

The following table shows the scope of work carried out in this report summarizes the scope of work and valuations estimated 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		
	Salmon	Gillnet	x	x	x		
	Salmon	Troll	x	x	x		
Pelagics	Herring - Roe	Seine	x	x	x		x
	Herring - Roe	Gillnet	x	x	x		x
	Herring - Spawn on Kelp			x			
	Tuna	Hook & Line		x			x
	Sardine	Seine		x			x
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			
	Crab	Trap	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, lawyers, 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 2015 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

### License/ Quota Stratification & Valuation Criteria

The valuation for each licence type, quota including units (per licence, per foot, etc.) an indication of the numbers 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.)
- Nature of licence (vessel or party based)
- # of commercial licences available
- # of communal commercial licences available
- Licence management regime (Area licencing including # of areas, stacking, etc.)
- The type of stratification utilized (per licence, per lb, etc.)

### Valuation Trends

For each licence category, the valuation trend graphs were updated to the best of the contractor's ability. It should be noted that these graphs are not adjusted for inflation.

## LICENSING INFORMATION

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

- Integrated Fisheries Management Plans: <http://www.pac.dfo-mpo.gc.ca/fm-gp/ifmp-eng.html>
- DFO Licencing: <http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/licence-permis/index-eng.htm>

# SALMON: Salmon Seine

## Background to Valuation

General	
License Category	AS
Nature of License	Vessel-based
# Commercial Licences	210
# Communal Commercial Licences	66
Area Licensing?	2 areas
Stacking?	Yes
Competitive or Quota Management?	Competitive with pilot IVQ

Valuation Parameters	
License	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, 2016

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
Full Fee	195	425,000	82,875,000
Reduced Fee	15	400,000	6,000,000
All AS	210	423,214	88,875,000

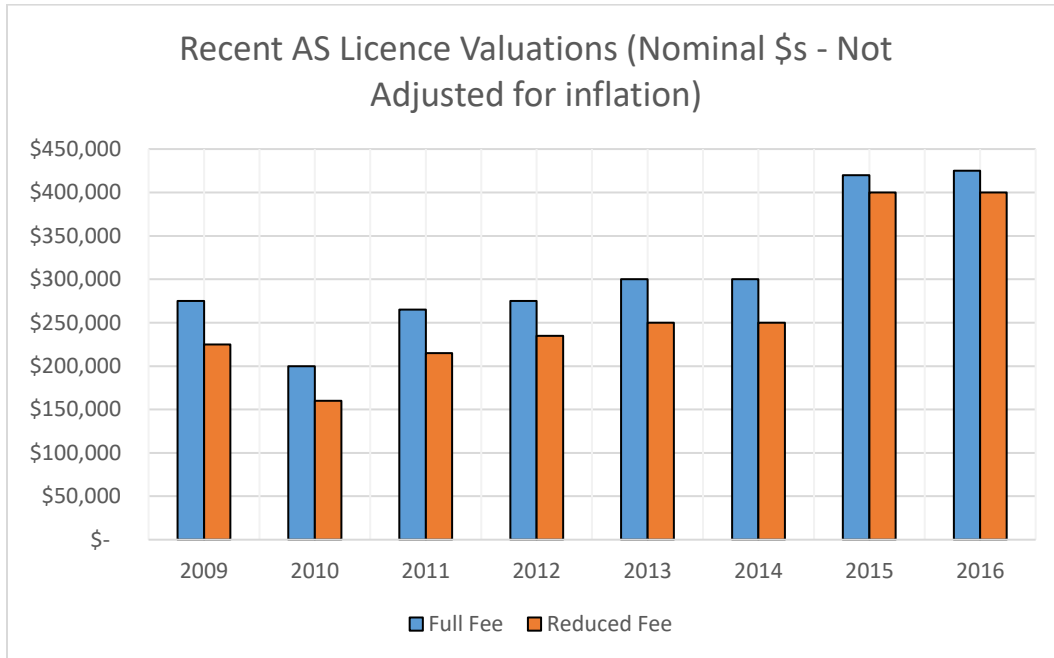
### Valuation Comments

- The valuation range for the period is \$400,000 - \$475,000 (full fee).
- There was a reasonable amount of market activity for salmon seine licences.
- It is worth noting that some industry experts feel that these licences would be more fairly priced closer to \$200,000.
- No reduced fee licences were uncovered so valuation is an estimate.



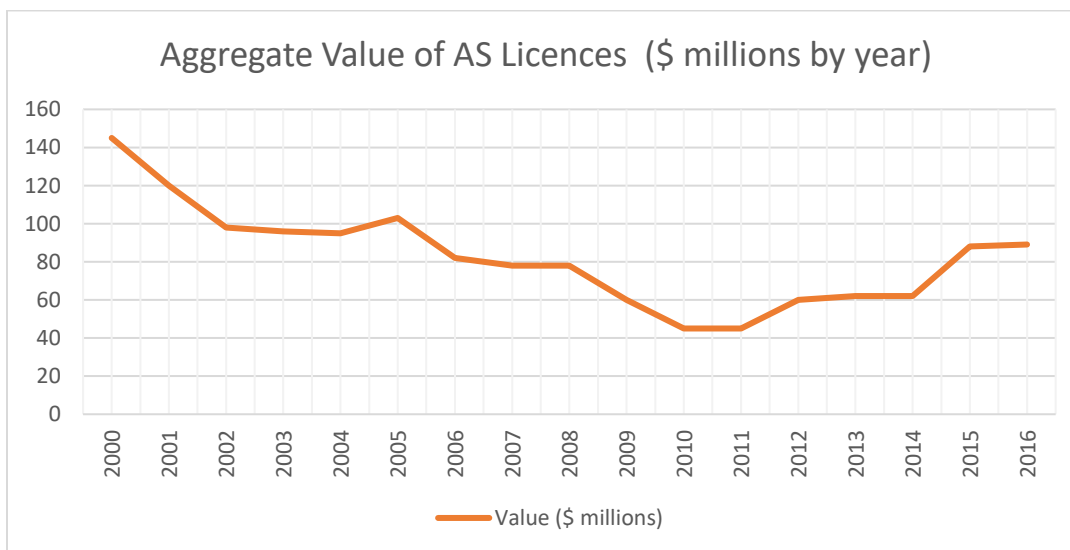
## LICENCING TRENDS

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

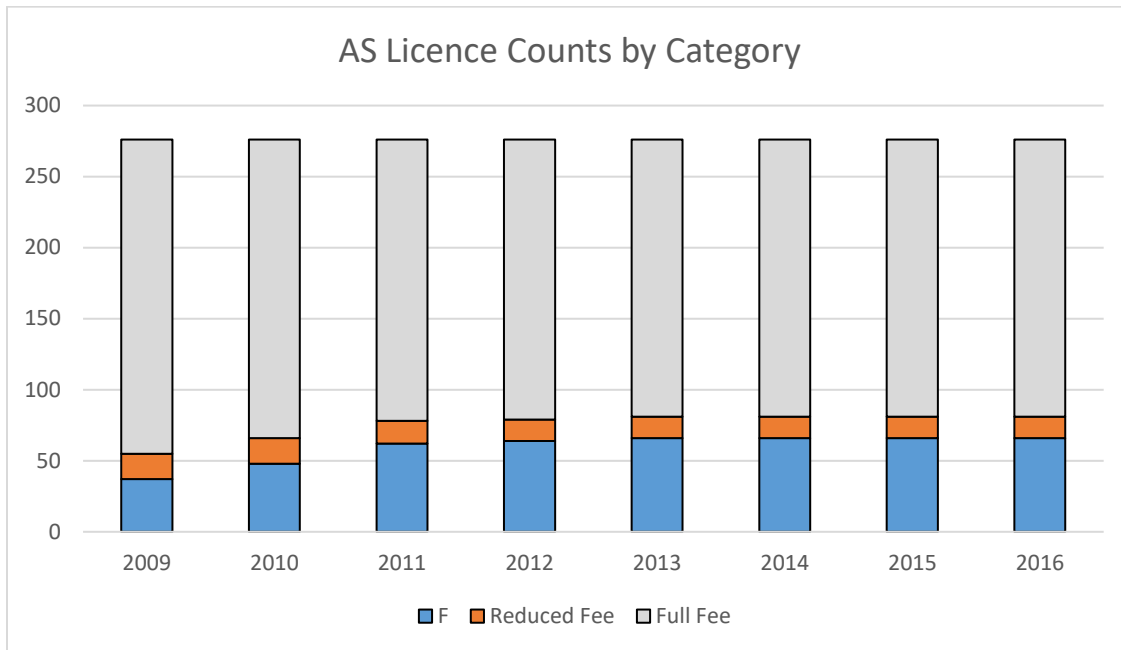


Salmon seine licence prices have maintained their large gains over the previous year. This increase in licence values from 2014 seems based on speculation about the future profitability of the fishery. Some industry experts have suggested that current profits from the fishery would support a valuation closer to \$200,000.

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



## AS Licence Counts by Category



There have been no PICFI or ATP retirements in the last three years

## Outlook/ Commentary

The outlook for the seine sector is mediocre, given:

- Some industry experts peg the value of a seine licence closer to \$200,000
- The seine licences are highly dependent on salmon returns
- Currently many fishers are just making wages off of returns and not a lot more
- Current licence holders are likely in a position to wait for the fishery to return to higher profit levels
- Slow market for buying/ selling of licences as many licence holders are willing to wait while many buyers are not willing to pay the approximate \$400,000 price tag

The brighter longer-term outlook prevails despite low catches in 2016 and lean expectations for 2017.

# SALMON: Salmon Gillnet

## BACKGROUND TO VALUATION

General	
License Category	AG
Nature of License	Vessel-based
# Commercial Licences	824
# Communal Commercial Licences	331
Area Licensing?	3 areas
Stacking?	Yes
Competitive or Quota Management?	Competitive with pilot IVQ

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

## CURRENT VALUATION

### Licence Value at December 31, 2016

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
Full Fee	712	65,000	46,280,000
Reduced Fee	112	60,000	6,720,000
All AG	824	64,320	53,000,000

### Valuation Comments

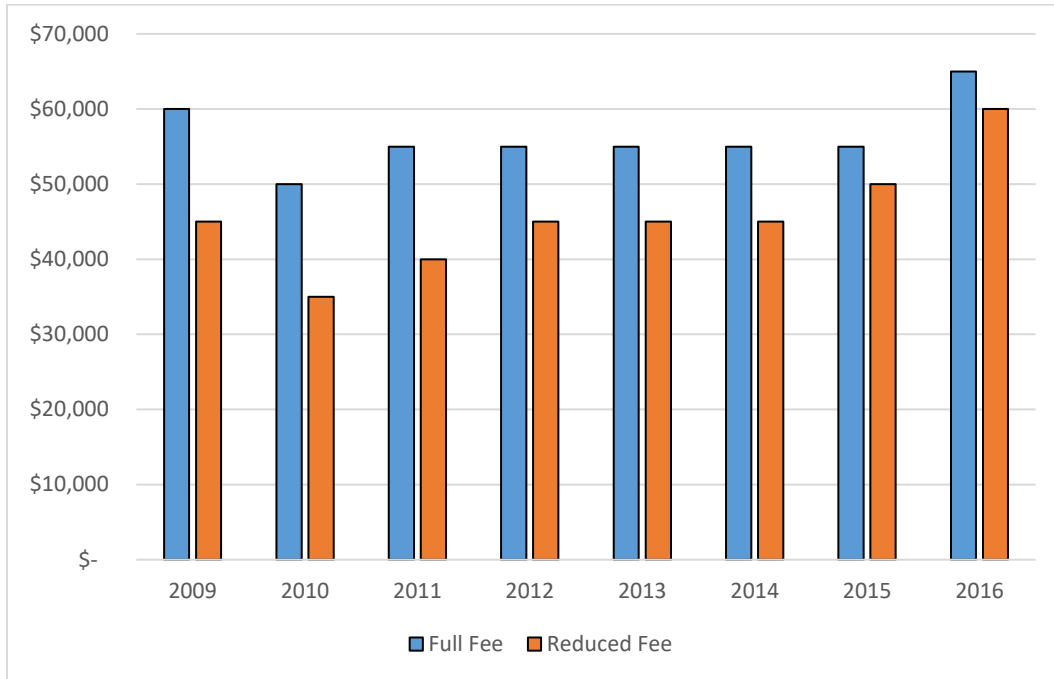
- This valuation does not include the 254 Northern Native Fishing (NNFC) licences (NAG designation)
- Valuation range for period: \$60,000 - \$75,000
- Few reduced fee licences were uncovered so the confidence in the valuation above is low





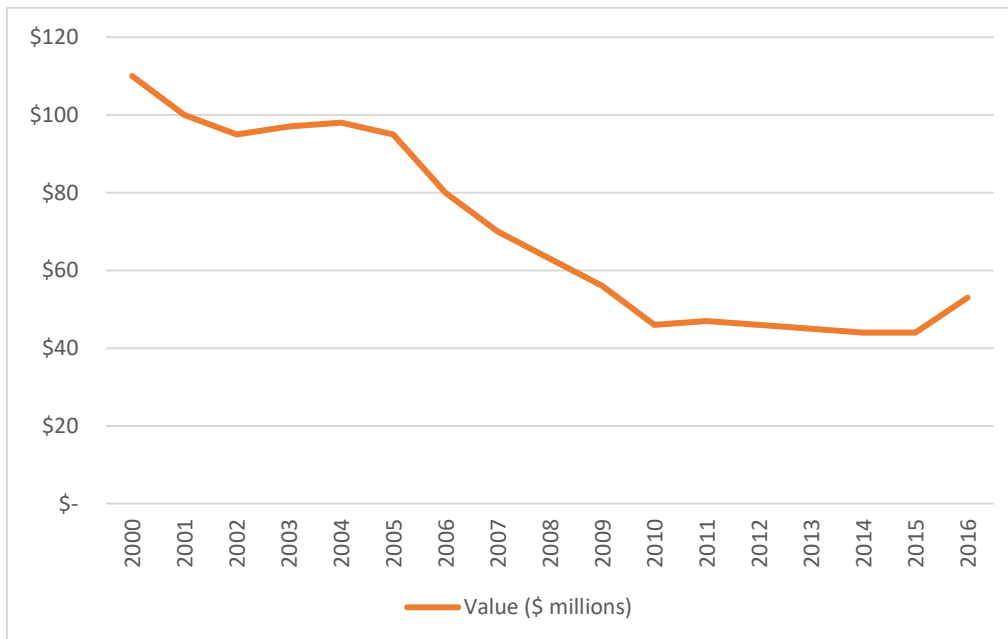
## LICENCING TRENDS

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

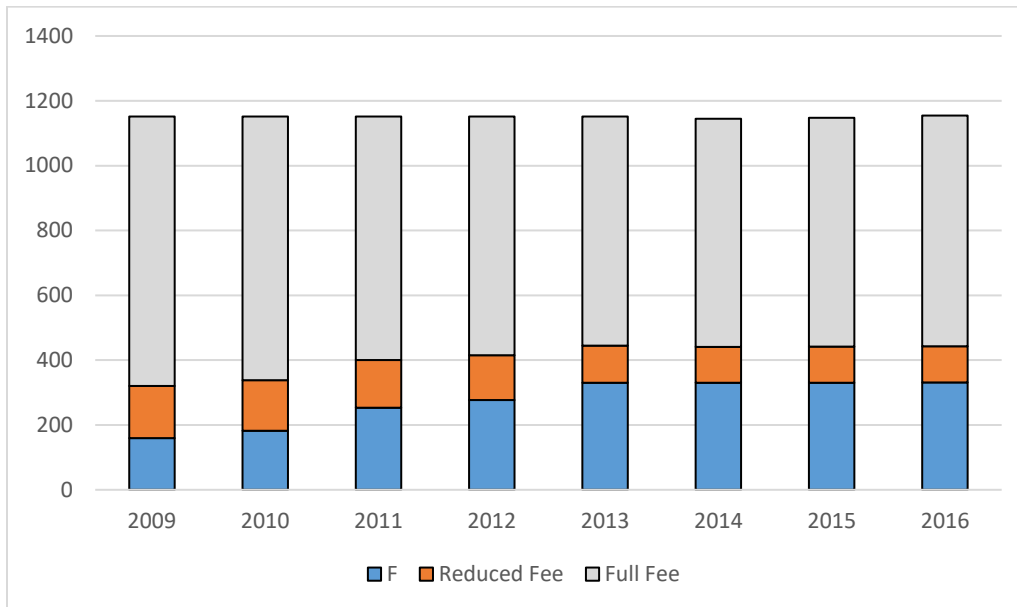


Gillnet prices seem to have been very stable in recent years, with this years value being the first significant increase in 5 years.

### Aggregate Value of AG Licenses (\$ millions by year)



## AG Licence Counts by Category



## Outlook/ Commentary

- The outlook for the Salmon Gillnet fishery is positive although some of the increase in value seems to be speculative in nature
- More and more fishers have 2 or 3 licences in different areas and are able to follow the fish, however, there are still a lot of boats out there just making wages

# SALMON: Salmon Troll

## BACKGROUND TO VALUATION

General	
License Category	AT
Nature of License	Vessel-based
# Commercial Licences	348
# Communal Commercial Licences	85
Area Licensing?	3 areas
Stacking?	Yes
Competitive or Quota Management?	Competitive with pilot IVQ

Valuation Parameters	
License	Per Licence
Quota	n/a
Vessels	Yes
Amount of trading activity in category this year	Med
# Transactions underlying valuation	≈ 18
Confidence in current year valuations	Med

## CURRENT VALUATION

### Licence Value at December 31, 2016

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
Full Fee	338	145,000	49,010,000
Reduced Fee	10	130,000	1,300,000
All AT	348	144,568	50,310,000

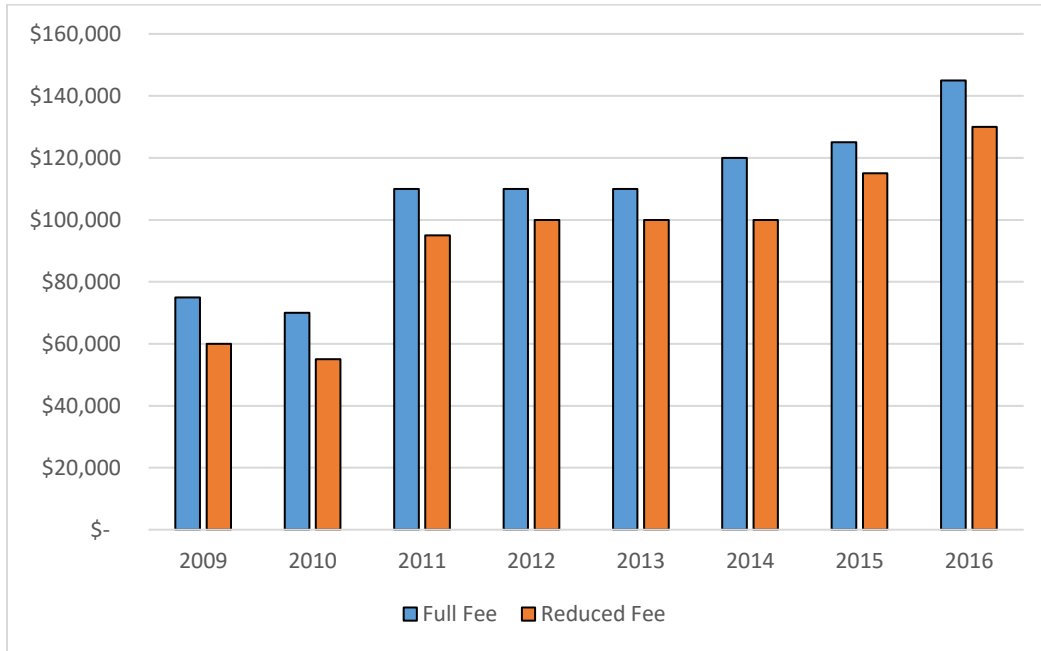
### Valuation Comments

- Values ranged from \$130,000 to \$195,000
- Values were seen as high as \$220,000 in early 2017
- Most of the activity was in area F
- Moderate level in area G and little to no activity in area H

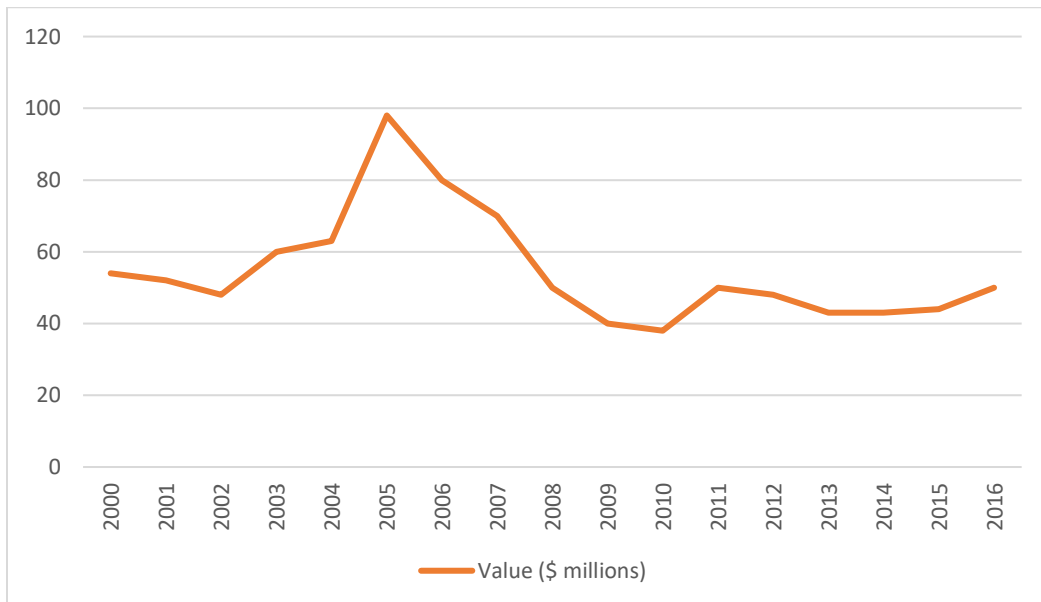


## LICENCING TRENDS

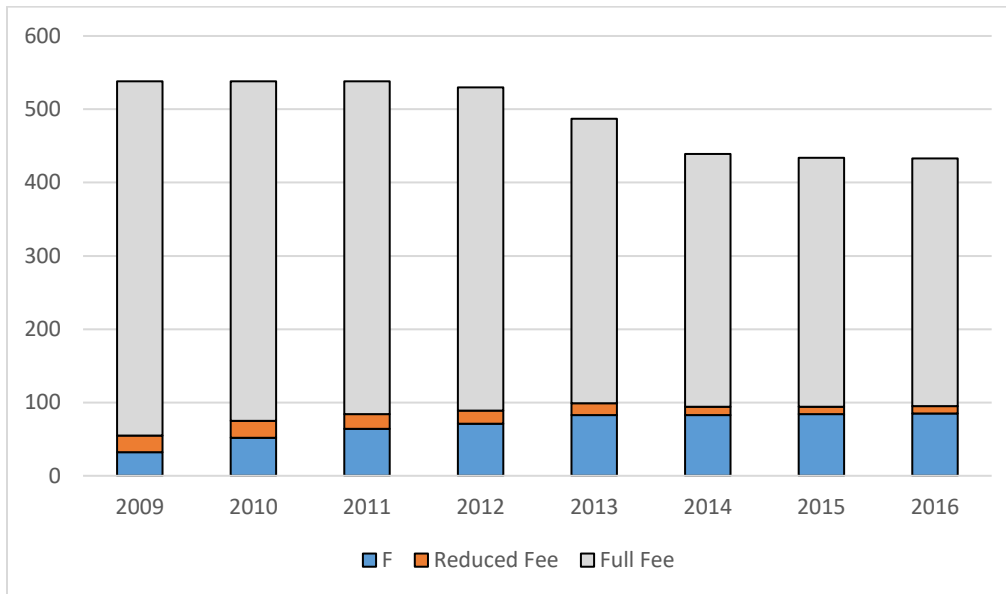
### Recent AT License Valuations (Nominal \$s – not adjusted for inflation)



### Aggregate Value of AT Licenses (\$ millions by year)



## AT Licence Counts by Category



## Outlook/ Commentary

- There has been a high level of activity and good fishing in area F – although some of the increase in value could be attributed to speculation
- There has been a moderate level of activity in area G and little to activity in area H
- The prices for area F licences in early 2017 were seen as high as \$220,000 as a lot of people are looking to get up to the North Coast

# PELAGICS: Roe Herring Seine

## BACKGROUND TO VALUATION

General	
License Category	HS
Nature of License	Party-based
# Commercial Licences	241
# Communal Commercial Licences	11
Area Licensing?	3 areas (annual selection)
Stacking?	Yes (limited)
Competitive or Quota Management?	Pools (equal sharing)

Valuation Parameters	
License	Per Licence
Quota	n/a
Vessels	Yes
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, 2016

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
Full Fee	194	50,000	9,700,000
Reduced Fee	47	45,000	2,115,000
All HS	241	49,025	11,815,000

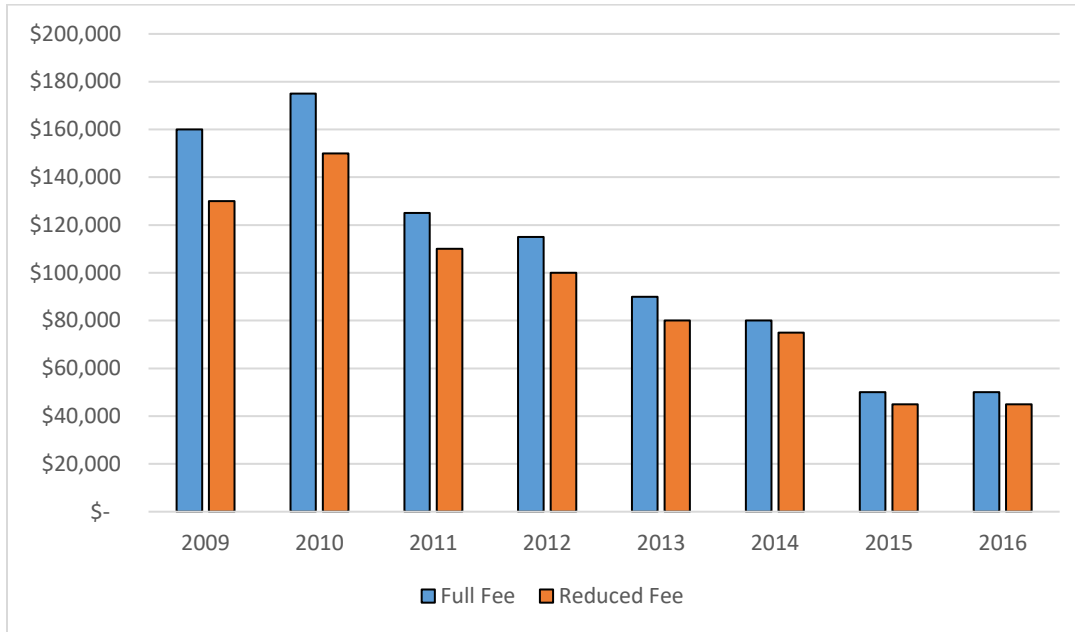
### Valuation Comments

- No HS transactions uncovered, so same valuation utilized as last year
- Typically, sales have been between \$40,000-\$50,000
- There are many cases where the seller may have paid \$500,000 for the licence and is not currently willing to sell for even as high as \$120,000
- Very low market activity
- Most licence holders seem content to wait and see if the fishery begins to see greater returns

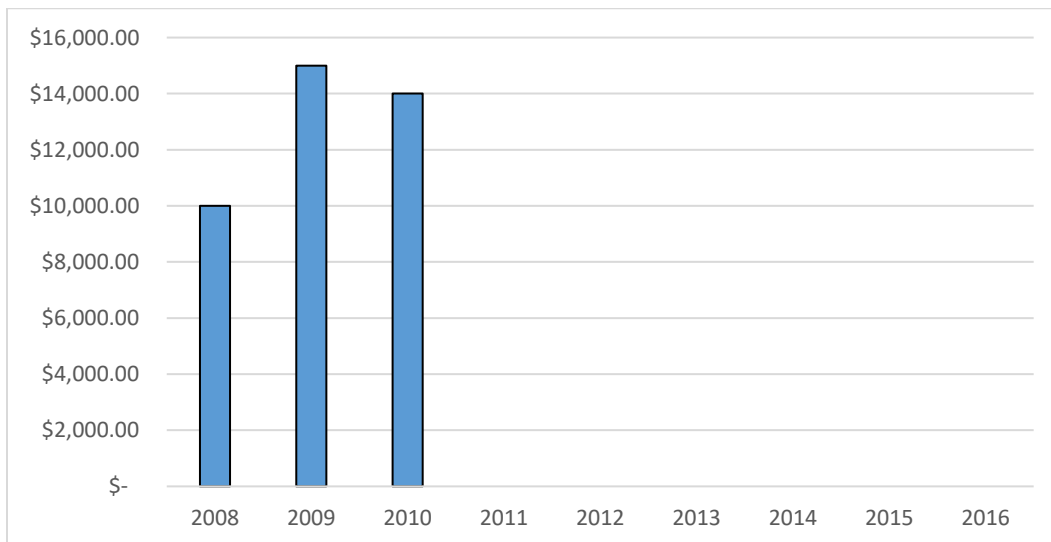


## LICENCING TRENDS

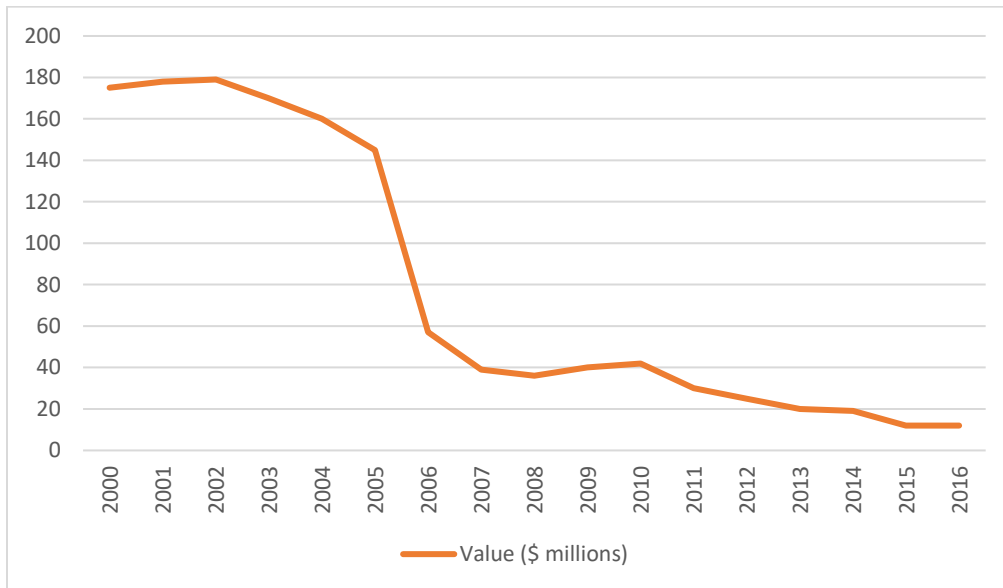
### Recent HS License Valuations (Nominal \$s – not adjusted for inflation)



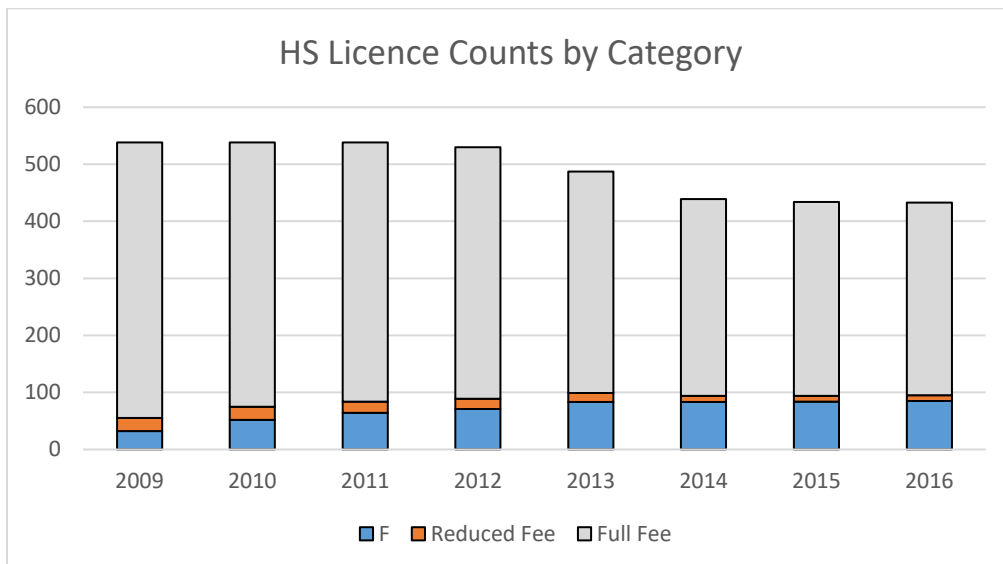
### Recent HS License Lease Rates (\$)



## Aggregate Value of HS Licenses (\$ millions by year)



## HS Licence Counts by Category



## Outlook/ Commentary

- 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 won't ever be as lucrative as it was due to international pressure from Alaska and Russia
- As noted in the 2015 report, there is little optimism that this fishery will ever return to a lucrative status





# PELAGICS: Roe Herring Gillnet

## BACKGROUND TO VALUATION

General	
License Category	HG
Nature of License	Party-based
# Commercial Licences	994
# Communal Commercial Licences	273
Area Licensing?	3 areas (annual selection)
Stacking?	yes
Competitive or Quota Management?	Pools (equal sharing)

Valuation Parameters	
License	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 valuations	Med

## CURRENT VALUATION

### Licence Value at December 31, 2016

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
Full Fee	745	32,500	24,212,500
Reduced Fee	249	25,000	6,225,000
All HG	994	30,621	30,437,500

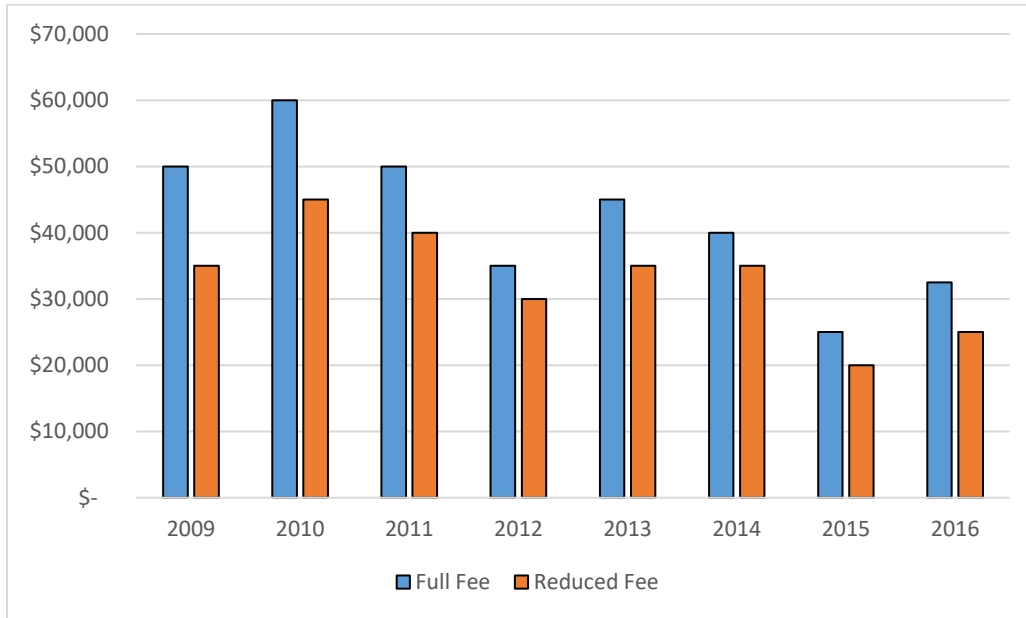
### Valuation Comments

- Values for this valuation ranged from \$30,000 - \$35,000
- There was very little activity in the market for HG licences
- Similar to HS, many licence holders are waiting for a rebound and are not willing to sell at current prices

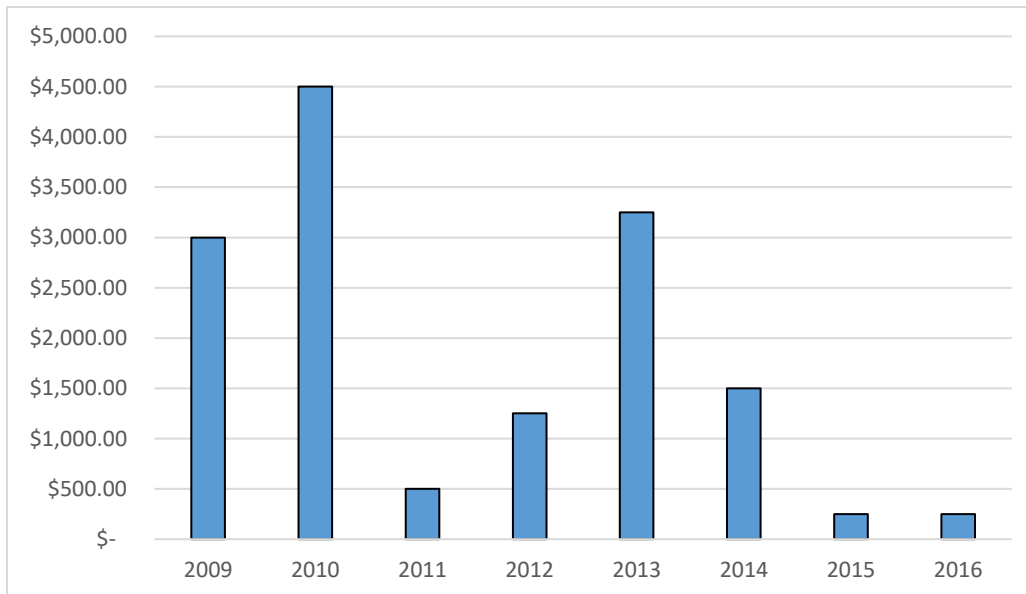


## LICENCING TRENDS

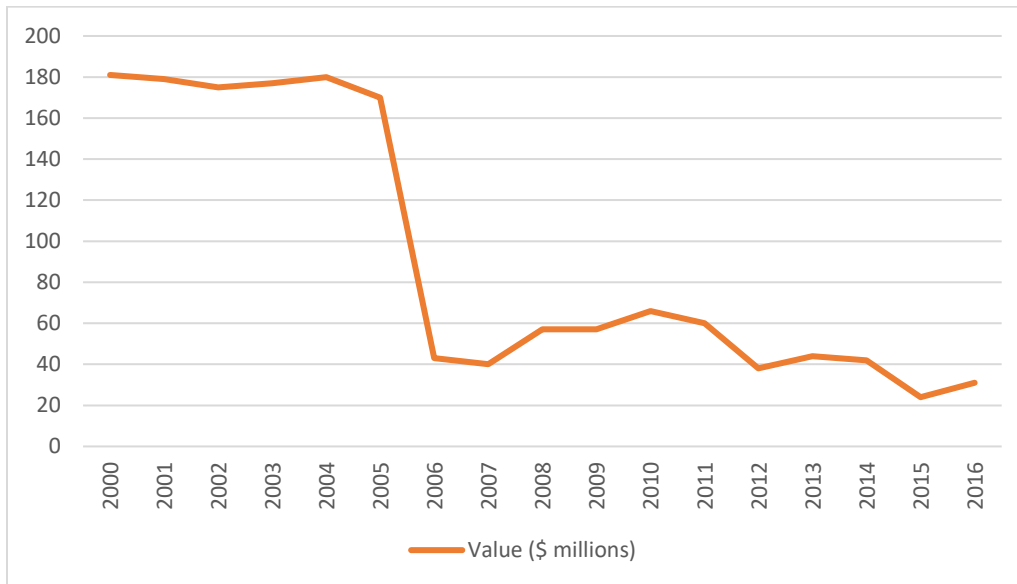
### Recent HG License Valuations (Nominal \$s – not adjusted for inflation)



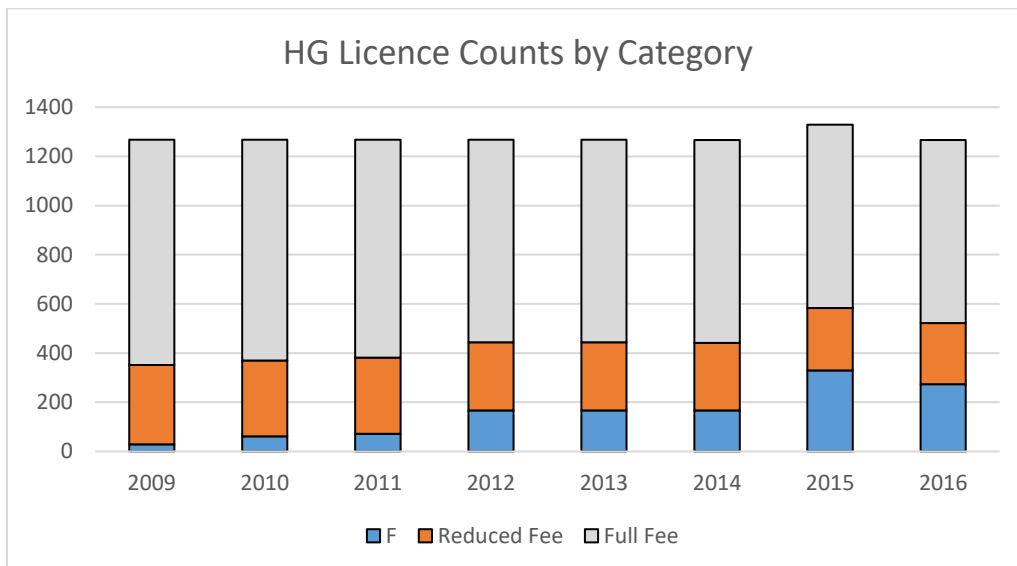
### Recent HG License Lease Rate (\$)



## Aggregate Value of HG Licenses (\$ millions by year)



## HG Licence Counts by Category



## Outlook/ Commentary

- Similar to Herring Roe Seine, there is little optimism that this fishery will return to the lucrative status enjoyed past years
- The market for HG licences is tight as current licence holders are not wanting to sell at current prices
- Industry experts have indicated they think Herring Gillnetting will be little more than a temporary job – there is not a lot of money to be made

# PELAGICS: Herring Spawn on Kelp

## BACKGROUND TO VALUATION

General	
License Category	J
Nature of License	Vessel-based
# Commercial Licences	34
# Communal Commercial Licences	12
Area Licensing?	5 areas
Stacking?	No
Competitive or Quota Management?	Quota

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

## CURRENT VALUATION

### Licence Value at December 31, 2016

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
J Licences	34	175,000	5,950,000

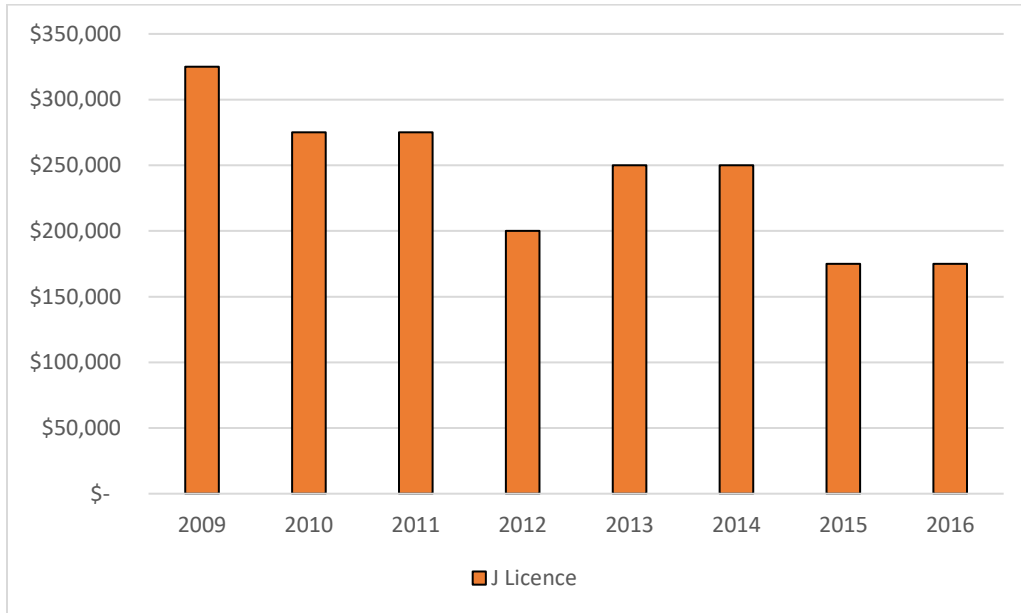
### Valuation Comments

- No transactions were uncovered for this valuation
- This valuation relies on anecdotal information from last year's valuation
- The market activity for this licence is either very low or non-existent

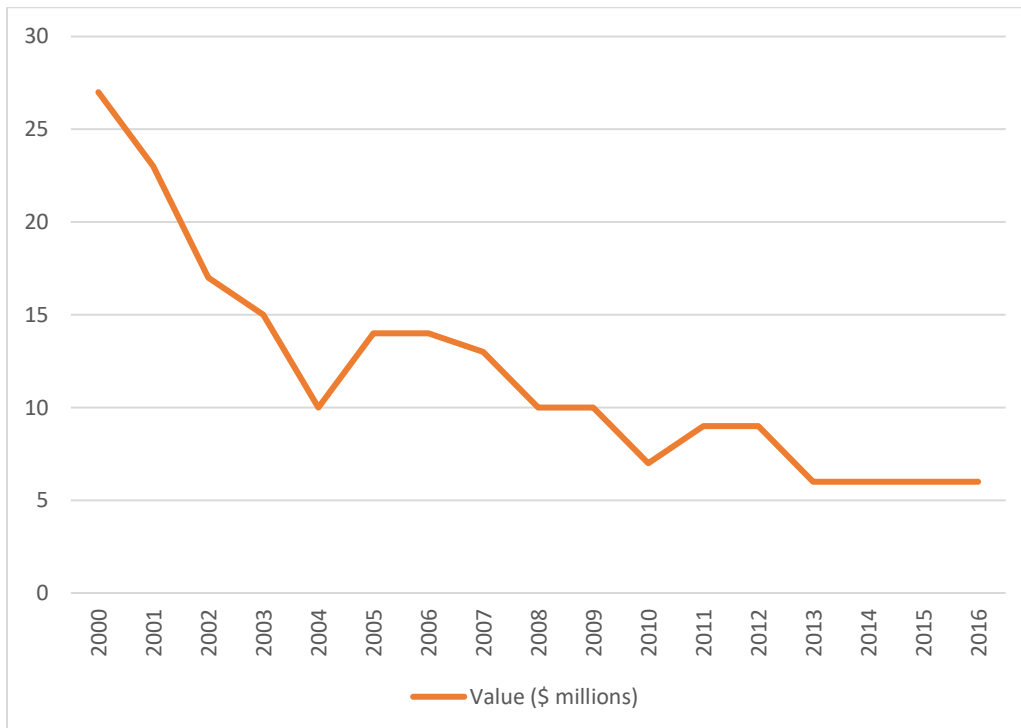


## LICENCING TRENDS

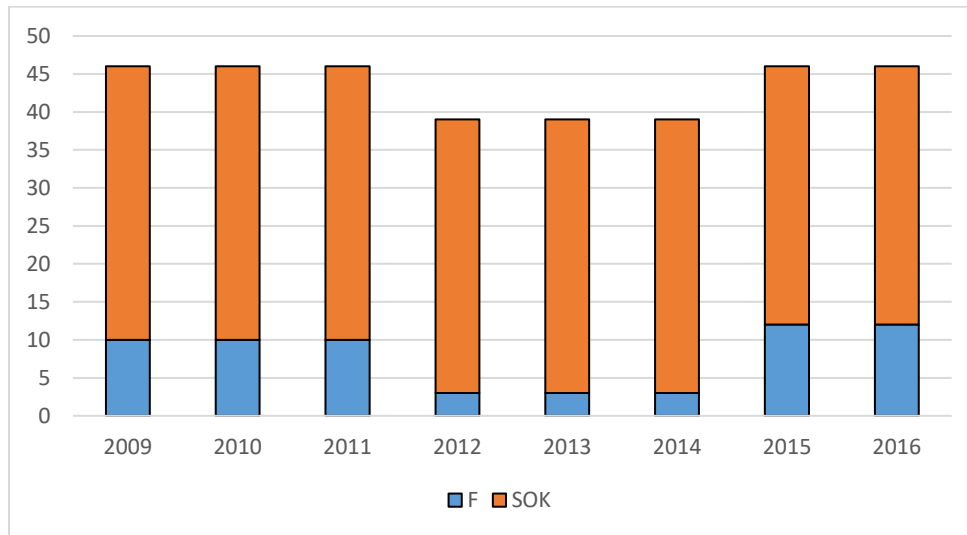
### Recent J License Valuations (Nominal \$s – not adjusted for inflation)



### Aggregate Value of J Licenses (\$ millions by year)



## J Licence Counts by Category



## Outlook/ Commentary

- The outlook for this fishery is weak
- Similar to the Roe Herring fishery, the SOK fishery has been weakened by weak Japanese demand, and international pressure from Alaska and Russia
- As noted in the 2015 report, the economics of this fishery are extremely challenging. The operating costs are high relative to revenues causing many licence holders not to operate
- As noted in the 2015 report, "some SOK operations with abundant herring stocks and good quality product are performing adequately"

# PELAGICS: Tuna and Sardine

## TUNA (CATEGORY USA 68)

General	
License Category	USA 68
Nature of License	Party-based
# Commercial Licences	110
# Communal Commercial Licenses	0
Area Licensing?	No
Stacking?	No
Competitive or Quota Management?	Competitive

Valuation Parameters	
License	Per Licence
Quota	n/a
Vessels	n/a
Amount of trading activity in category this year	Low
# Transactions underlying valuation	≈ 2
Confidence in current year valuations	No valuation provided

## CURRENT VALUATION

### Licence Value at December 31, 2016

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

### Valuation Comments

- As noted in the 2015 report, “the tuna fishing Treaty between Canada and the USA has lapsed, meaning that the rights associated with the 110 USA 68 licences are tenuous”
- As noted in the 2015 report, “for the last three years, 45 licences have been granted access to US waters”
- Aggregate value uses the 45 licences granted access rather than the 110 available



## SARDINE (ZS)

General	
License Category	ZS
Nature of License	Party-based
# Commercial Licences	25
# Communal Commercial Licenses	25
Area Licensing?	No
Stacking?	No
Competitive or Quota Management?	Quota

Valuation Parameters	
License	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, 2016

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
ZS	25	n/a	n/a

### Valuation Comments

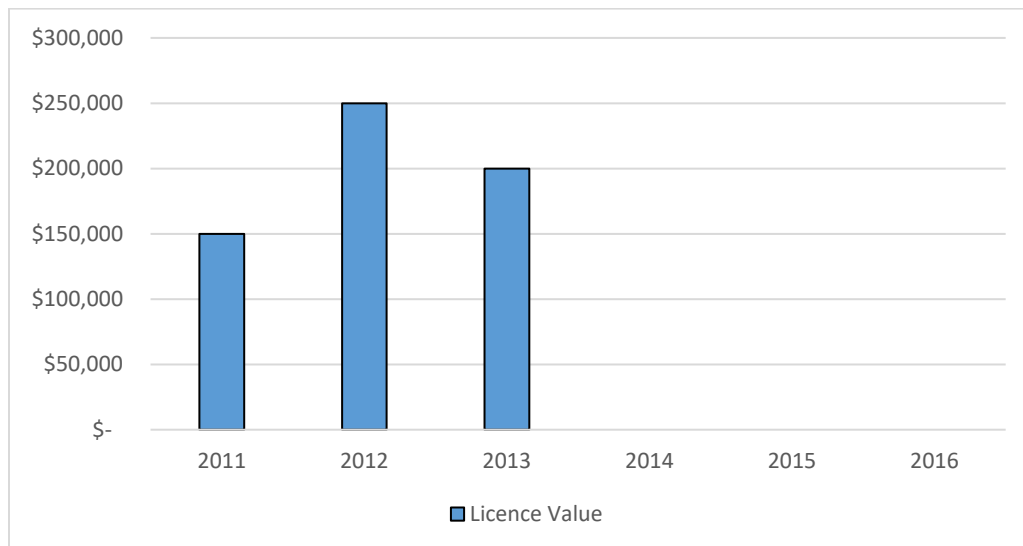
- 2016 marked the fourth consecutive season that sardines failed to materialize in BC waters
- No change from 2015, both licence and lease markets have dried up
- No transactions uncovered for this licence and likely no transactions at all took place





## LICENCING TRENDS

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



### Outlook/ Commentary

- For the fourth 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 in the last year that could eventually lead to improvements in West Coast sardine numbers

# GROUND FISH: Halibut

## BACKGROUND TO VALUATION

General	
License Category	L
Nature of License	Vessel-based
# Commercial Licences	343
# Communal Commercial Licences	92
Area Licensing?	No
Stacking?	No
Competitive or Quota Management?	Quota

Valuation Parameters	
License	Per Foot
Quota	Per lb (dressed)
Vessels	Yes
Amount of trading activity in category this year	Low
# Transactions underlying valuation	≈ 9 (licences)
Confidence in current year valuations	Low - Med

## CURRENT VALUATION

### Licence & Quota Value at December 31, 2016

Category	# Licences	Value per ft/ lb	Total Value (\$)
L Licences	343	1,500	22,020,600
Quota	6,138,994	95.00	583,204,430
Total Value			605,225,030

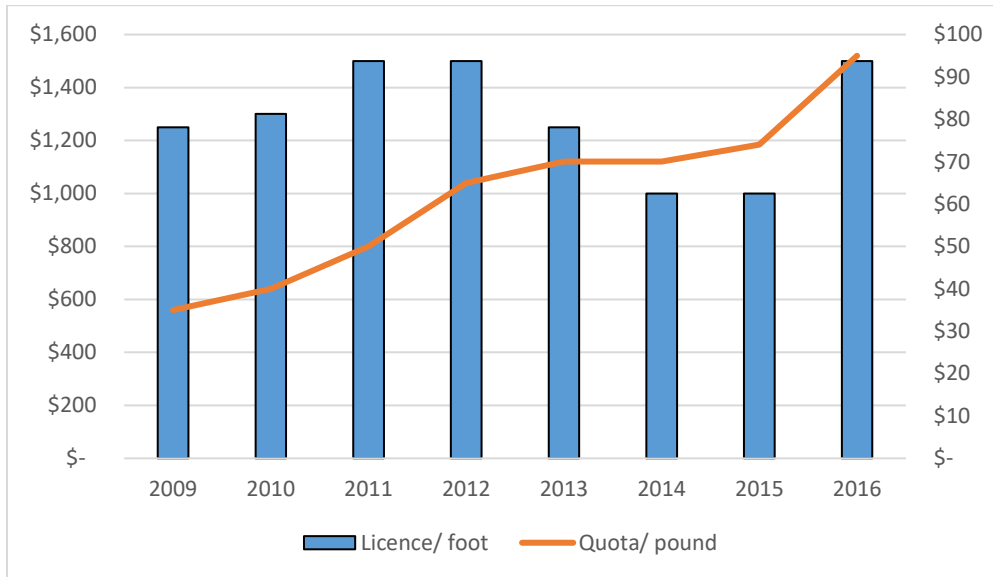
### Valuation Comments

- Price on L licences ranged from \$1,000/ft - \$2,100/ft
- Price on halibut quota ranged from \$72/lb - \$106/lb
- 60% increase in the value of overall value of the halibut fishery due to a 28% increase in price and a 25% increase in TAC
- Prices for quota leaned towards the high end of the range by the end of 2016
- The minimum quota attached to L licences has been driving their price up
- Reluctance to sell and an abundance of buyers have also been driving prices up
- Halibut quota prices in early 2017 were seen pushing \$130/lb

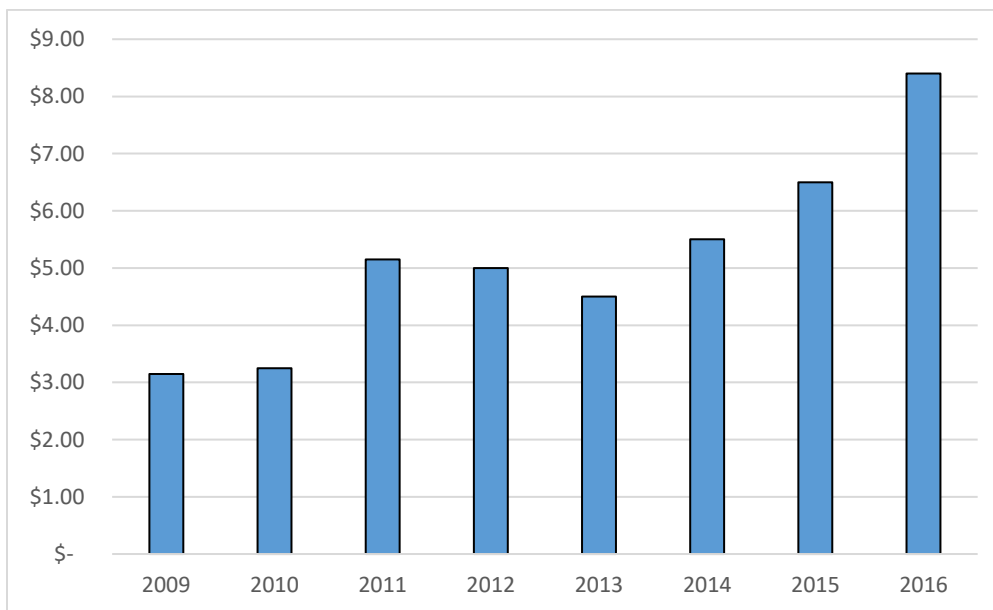


## LICENCING TRENDS

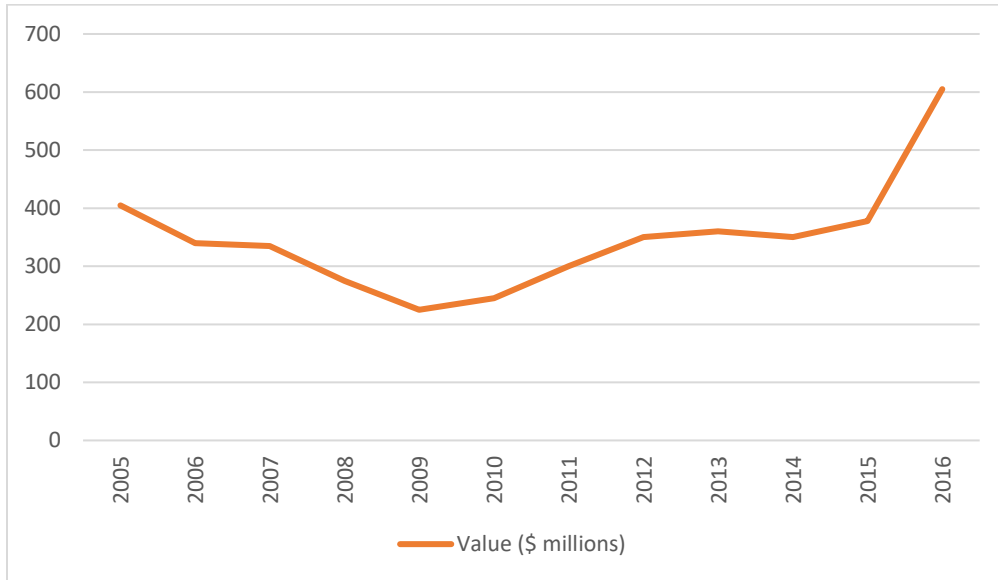
Recent L License and Halibut Quota Valuations (Nominal \$s – not adjusted for inflation)



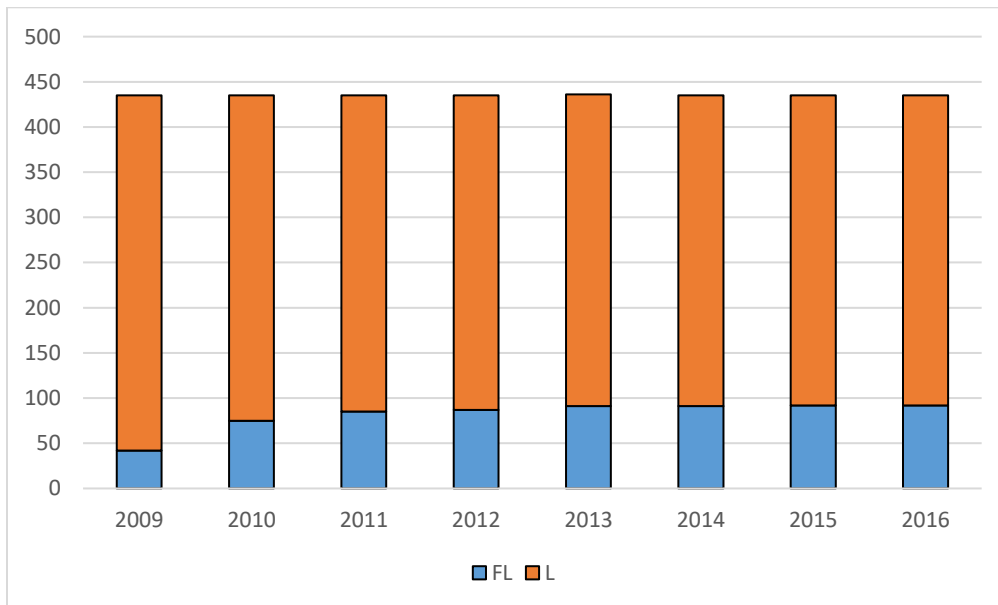
Recent Halibut Quota Lease Rates (\$ per lb)



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



## L Licence Category by Category



## Outlook/ Commentary

- Quota values have risen sharply in recent years, resulting in higher aggregate values reflecting increased demand for quota. This has been exacerbated by a reduction in the pool of quota
- Peak total allowable catch was about a decade ago which is double where it is at now
- Industry experts believe the outlook for this fishery is good, despite the lofty prices
- The price of L licences and quota continues to rise thanks in part to a fishery with strong management and a strong market demand
- As noted in the 2015 report, “it remains to be seen at what price point consumers will switch from halibut to other seafood items”
- The TAC had a considerable increase in 2016

# GROUND FISH: Sablefish (Black Cod)

## BACKGROUND TO VALUATION

General	
License Category	K
Nature of License	Vessel-based
# Commercial Licences	41
# Communal Commercial Licences	7
Area Licensing?	No
Stacking?	No
Competitive or Quota Management?	Quota

Valuation Parameters	
License	Per Foot
Quota	Per lb (jcut)
Vessels	Yes
Amount of trading activity in category this year	Low
# Transactions underlying valuation	= 0 (licences)
Confidence in current year valuations	Low

## CURRENT VALUATION

### Licence Value at December 31, 2016

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
K Licence	41	250,000	10,250,000
Quota	3,743,838	75.00	280,787,850
Total Value			291,037,850

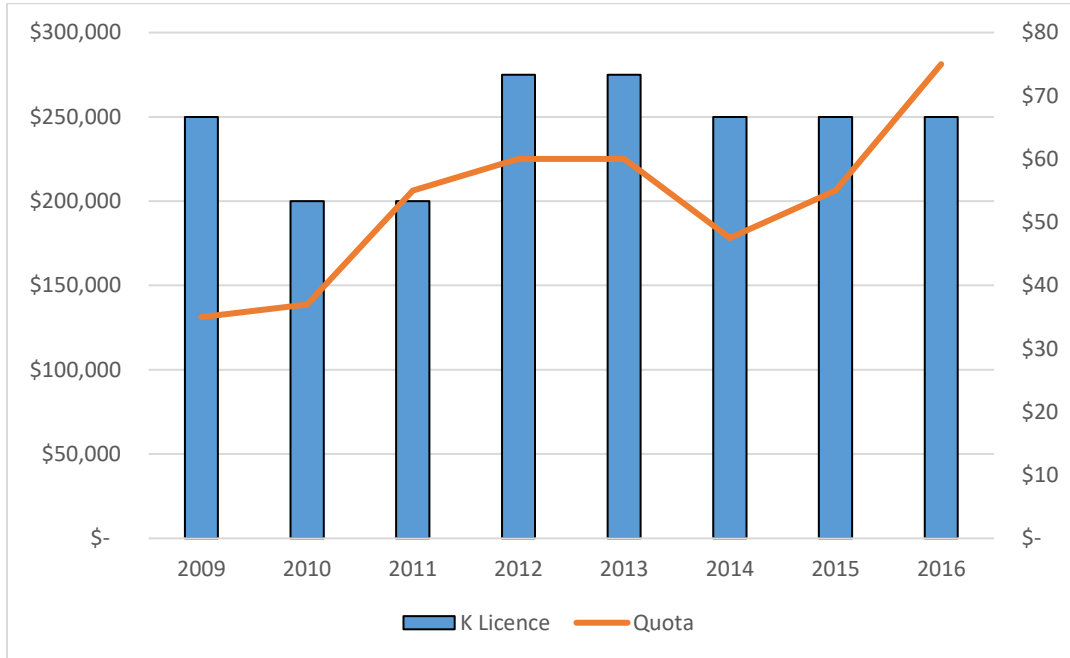
### Valuation Comments

- No K licence transactions were uncovered for this year's valuation
- The range on sablefish quota was \$68/lb - \$76/lb
- 45% increase in the value of overall value of the sablefish fishery due to a 36% increase in price and an 8% increase in TAC
- \$65/lb - \$68/lb could have been fair market value this year but limited transactions were uncovered

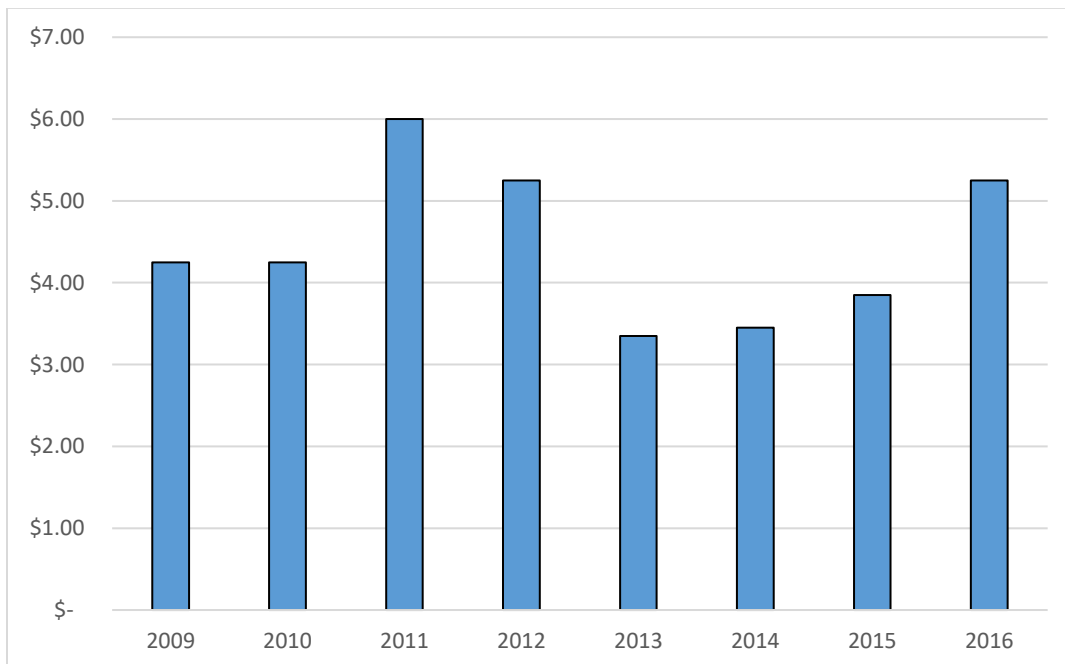


## LICENCING & QUOTA TRENDS

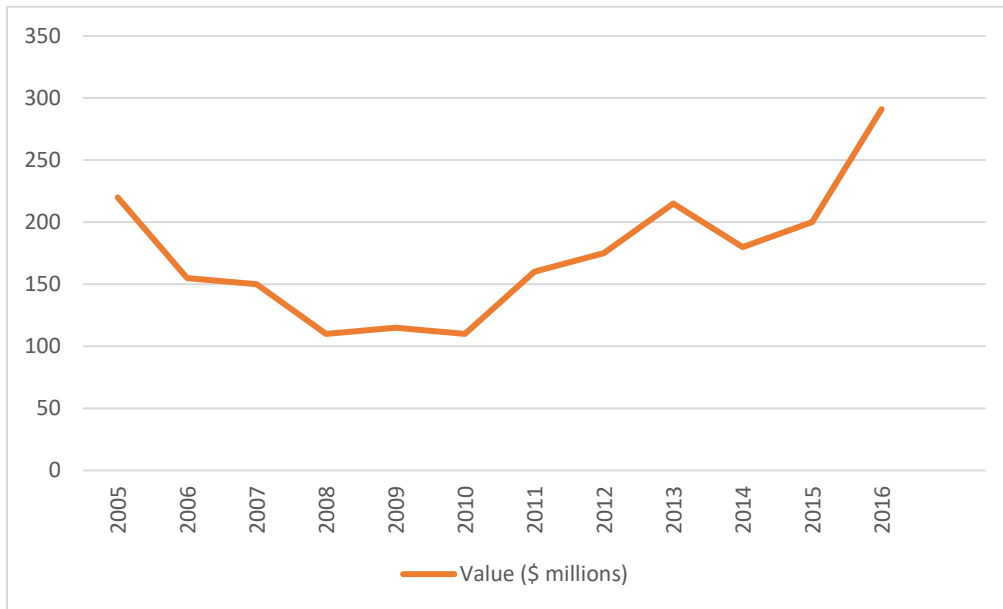
Recent K License and Sablefish Quota Valuations (Nominal \$s – not adjusted for inflation)



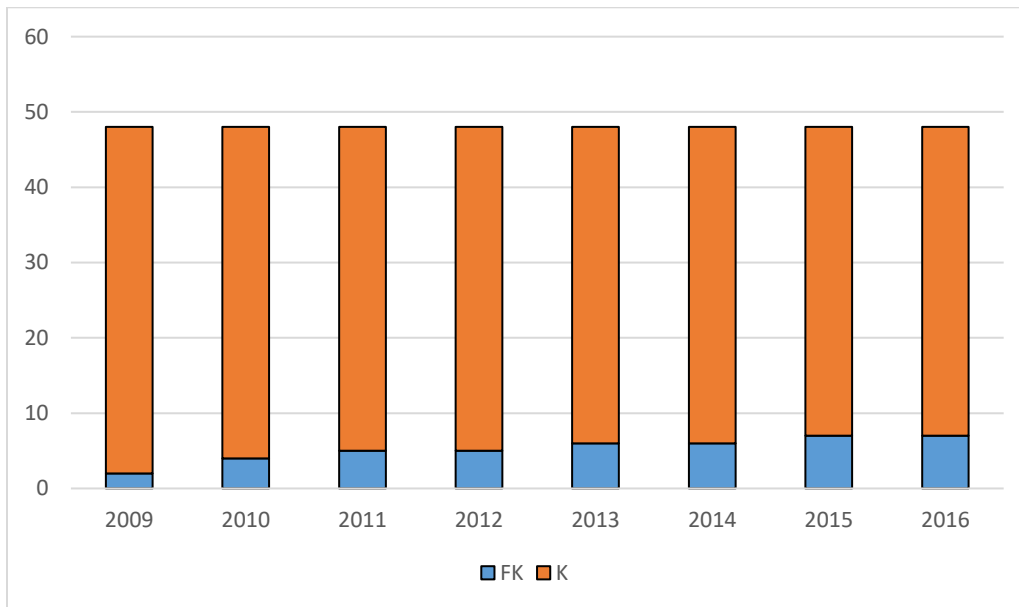
Recent Sablefish Quota Lease Rates (\$ per lb)



## Aggregate Value of K Licenses and Sablefish Quota (\$ millions by year)



## K Licence Counts by Category



## Outlook/ Commentary

- Similar to as noted in the 2015 report, the landed price of sablefish continues to be strong, however, the costs associated with operating in this fishery can be prohibitively high. Compounding this problem are the few K tabs that are available meaning a limited number of vessels that can actively fish
- The TAC has grown slightly in recent years and grew again in 2016





# GROUND FISH: Groundfish Trawl

## BACKGROUND TO VALUATION

General	
License Category	T
Nature of License	Vessel-based
# Commercial Licences	135
# Communal Commercial Licenses	4
Area Licensing?	No
Stacking?	No
Competitive or Quota Management?	Quota

Valuation Parameters	
License	Per Foot
Quota	Per lb
Vessels	Yes
Amount of trading activity in category this year	Low
# Transactions underlying valuation	≈ 2 (licences)
Confidence in current year valuations	Low (Groundfish)

## CURRENT VALUATION

### Licence and Quota Value at December 31, 2016

Category	# Licences/ lbs Quota, thousands	Value per Foot/ lbs quota	Total Value (\$ thousands)
T Licence	135	1,200	10,079,910
Uncut Quota	107,101,152	2.00	214,202,304
Hake Outside	229,601,261	0.29	66,584,366
Total Value			290,866,580

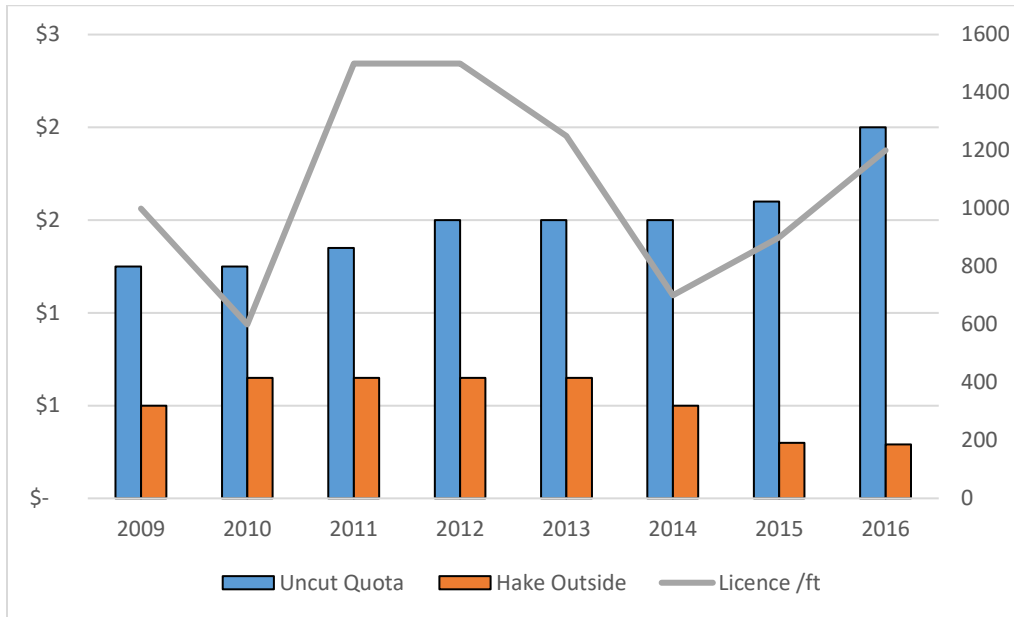
### Valuation Comments

- Average licence value based on \$1,500 per foot and 62.2' vessel = \$74,666
- T Licences are highly dependent on the specific holdings cap assigned to each licence
- T licences generally range from \$800/ft to \$2,000/ft depending on the holding cap
- 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
- The few uncut transactions uncovered ranged from \$2.00 - \$2.10
- No hake transactions were uncovered but an estimate was given of \$650,000 for 1% of hake quota
- 29% increase in the value of overall value of the groundfish trawl fishery due to a 25% increase in uncut quota price and a 13% increase in TAC for uncut (4% for hake)

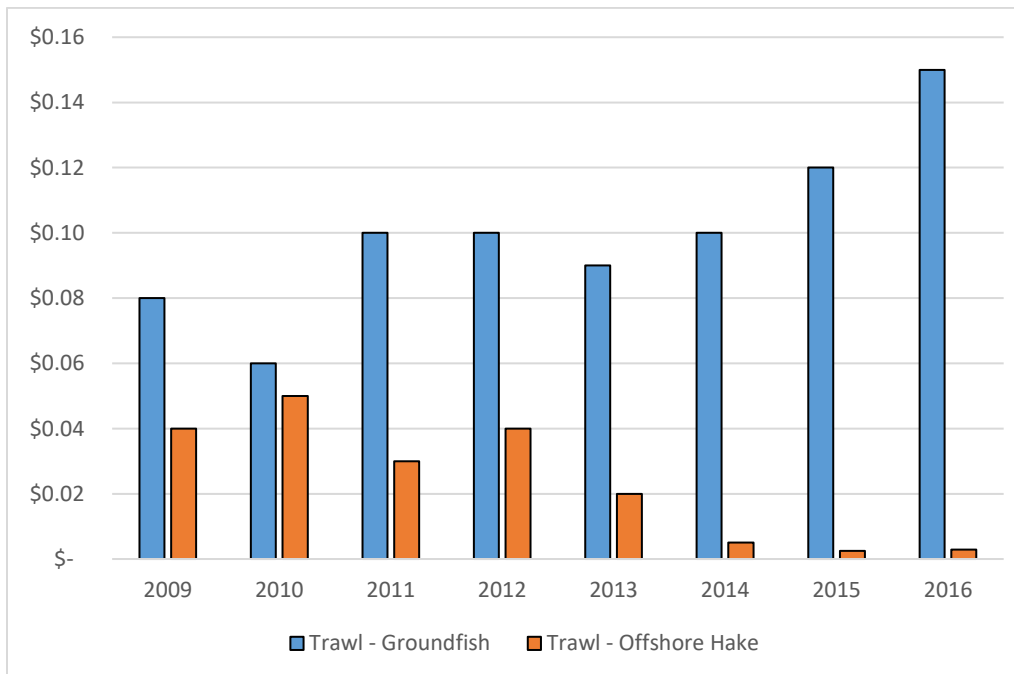


## LICENCING & QUOTA TRENDS

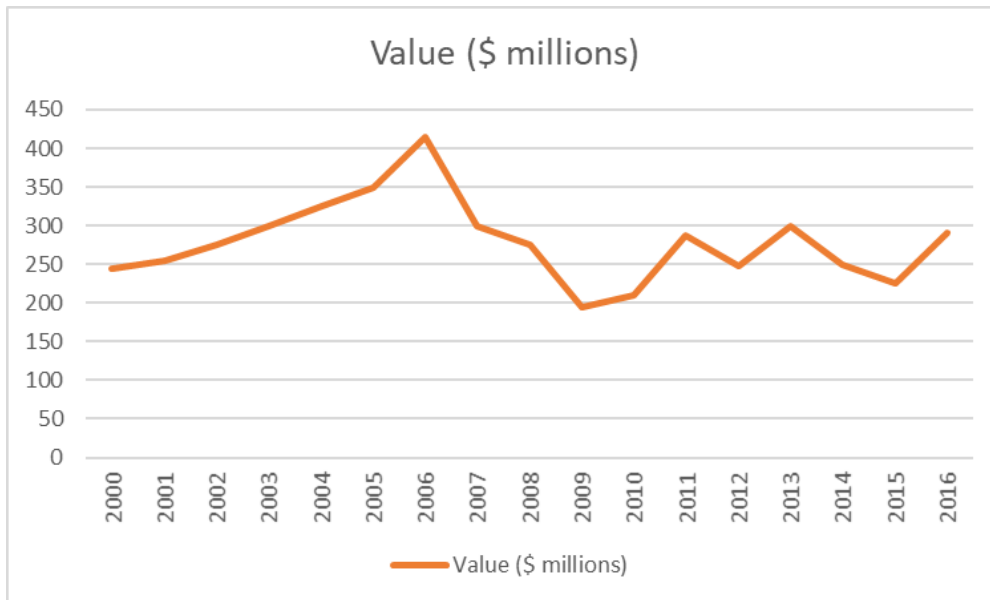
Recent T License and Trawl Quota Valuations (Nominal \$s – not adjusted for inflation)



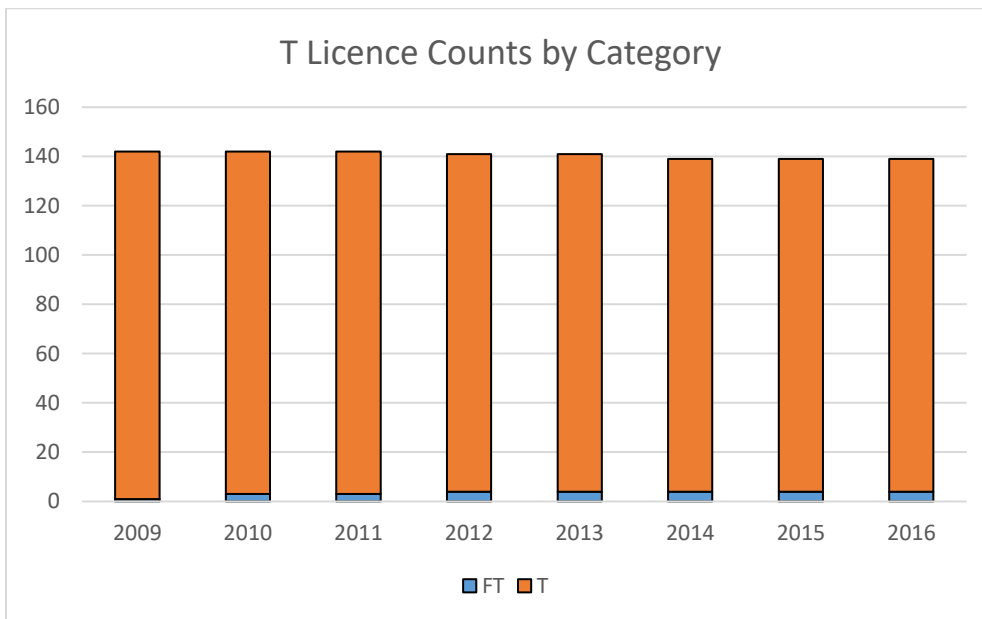
Recent Trawl Quota Lease Rates (\$ per lb)



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



## T Licence Counts by Category



## Outlook/ Commentary

- The groundfish business continues to be reasonably steady
- The low Canadian dollar is helpful as the bulk of fresh sales go into the US market
- A ban on fishing near fragile glass-sponge reefs in B.C.'s Hecate Strait could create challenges for some



# GROUND FISH: Rockfish Hook & Line

## BACKGROUND TO VALUATION

General	
License Category	ZN
Nature of License	Party-based
# Commercial Licences	212
# Communal Commercial Licences	50
Area Licensing?	No
Stacking?	No
Competitive or Quota Management?	Quota

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

## CURRENT VALUATION

### Licence and Quota Value at December 31, 2016

Category	# Licences	Value/	Total
ZN Inside	54	36,000	1,944,000
ZN Outside	158	180,000	28,440,000
ZN Total	212	143,321	30,384,000

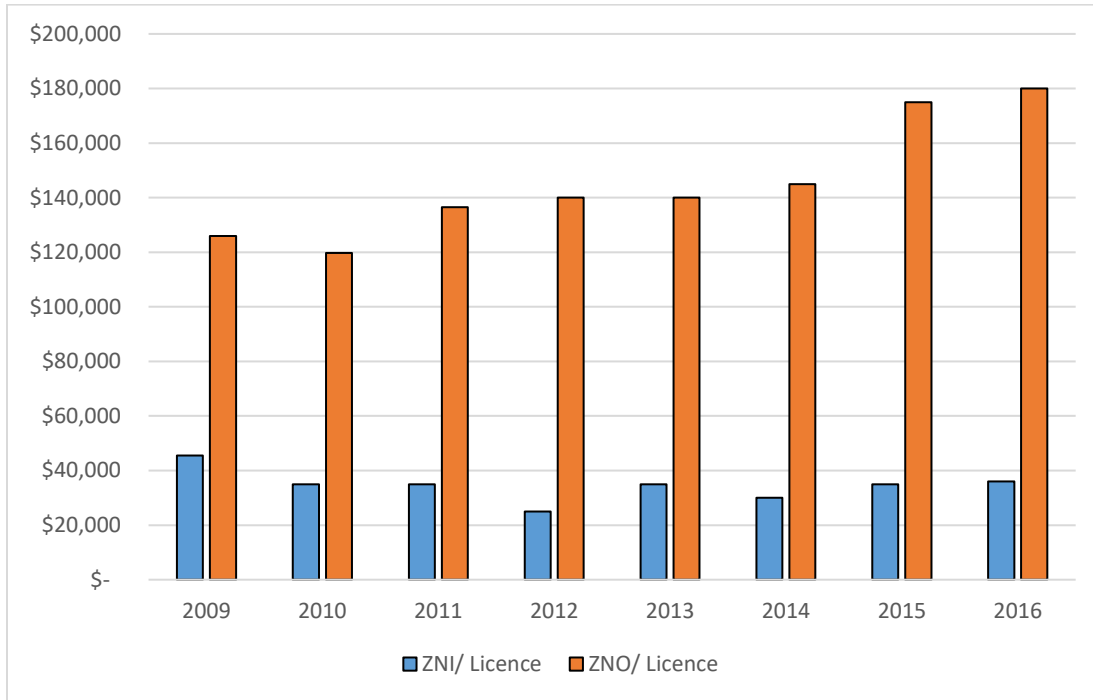
### Valuation Comments

- Values ranged between \$35,000 - \$38,000 for ZN inside
- Values ranged between \$150,000 - \$200,000 for ZN outside
- The price of both licences have remained fairly stable, only rising about 3% over last year's valuation
- Prices on ZN outside early in 2017 were climbing to as high as \$220,000
- Demand is very high for these licences, but not many come up as most licence holders need them

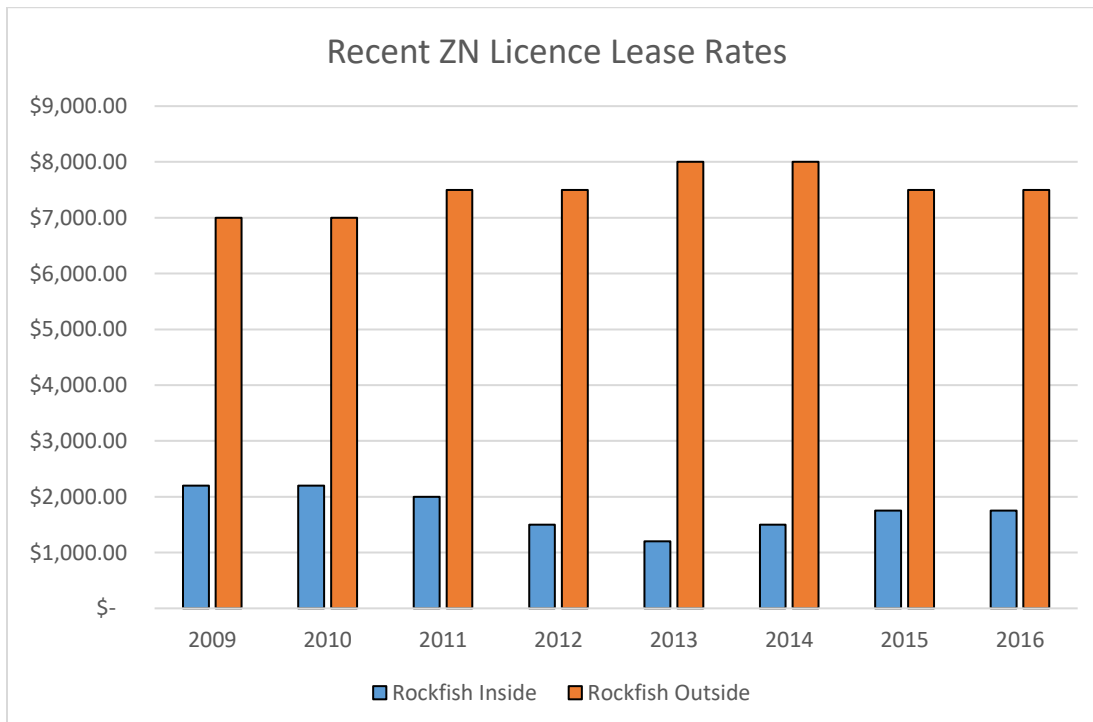


## LICENCING TRENDS

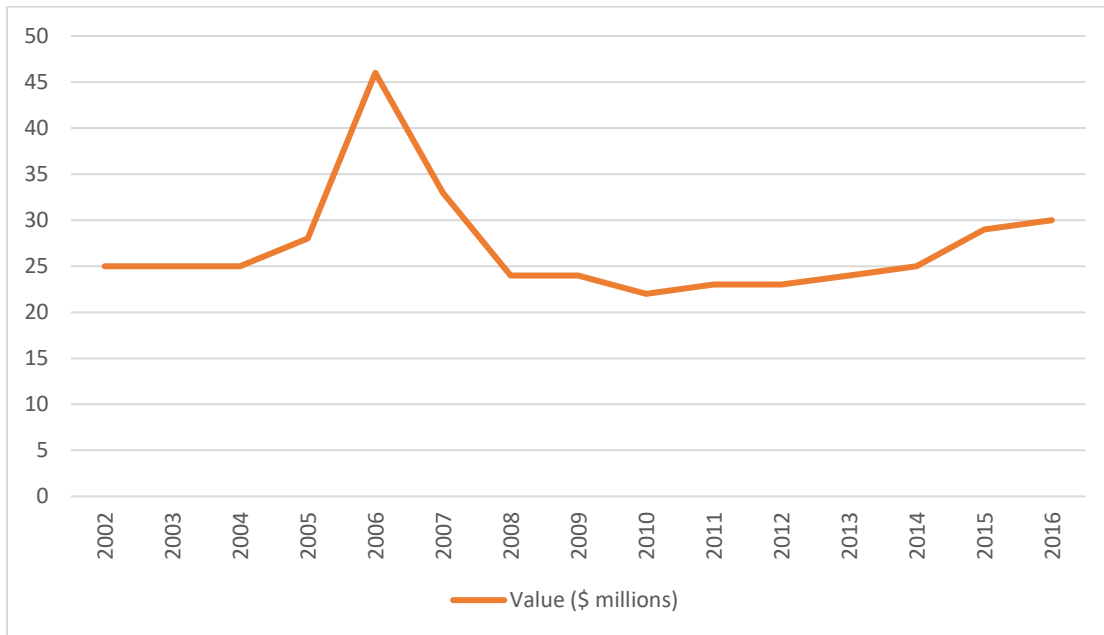
### Recent ZN License Valuations (Nominal \$s – not adjusted for inflation)



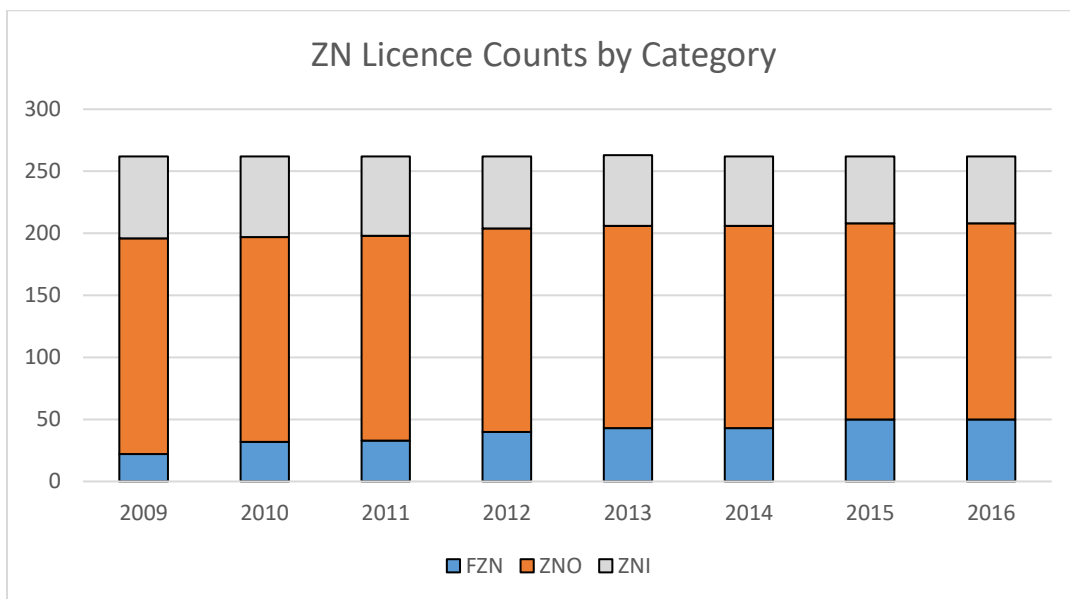
### Recent ZN Lease Rates (\$ per lb)



## Aggregate Value of ZN Licenses (\$ millions by year)



## ZN Licence Counts by Category



## Outlook/ Commentary

- No licence holders let the ZN outside licences go as they need them to protect their other fisheries
- This licence is particularly important in the halibut fishery – and for anybody that does long lining



# GROUND FISH: Lingcod and Dogfish

## BACKGROUND TO VALUATION

For context to the valuation of lingcod and dogfish, please note that these fisheries fall under the Integrated Groundfish Management Plan, where permanent and temporary trades of quota are permitted, and both fisheries are managed under a Individual Vessel Quota program. As noted in the 2015 report, these fisheries do not have individual licences attached to them, rather they can be fished under any vessel-based licence with available quota. For more information. Please consult DFO's Integrated Groundfish Management Plan.

Some Valuation information on quota and lease values for these two fisheries is found below.

## LINGCOD

About 5 transactions were uncovered for this report with values ranging between \$8 - \$10 per lb

### Quota Value at December 31, 2016

Category	Lbs of quota	Value/ Lb	Total Value
Lingcod Quota (H&L)	2,484,770	\$9.40	\$23,356,838

- As noted in the 2015 report, "the West Coast of Vancouver Island is the most efficient lingcod harvest area for the hook and line fleet, while the north coast poses logistical challenges." These differences in efficiencies by area result in different lease rates that reflect the higher costs of getting fish to market in different areas

## DOGFISH

About 5 transactions were uncovered for this report with values ranging between \$0.08 –\$ 0.12

### Quota Value at December 31, 2016

Category	Lbs of quota	Value/ Lb	Total Value
Dogfish Quota (H&L)	18,889,012	\$0.10	\$1,888,901

- The dogfish fishery has not been very active and the value this year was very low. The dogfish fishery struggles with challenging harvesting logistics and economics as well as poor market conditions
- The east coast holds a competitive advantage in this fishery because of the higher volume and proximity to the European market
- There is the potential for the west coast dog fishery to penetrate Asian markets



# SHELLFISH: Prawn by Trap

## BACKGROUND TO VALUATION

General	
License Category	W
Nature of License	Vessel-based
# Commercial Licences	189
# Communal Commercial Licences	60
Area Licensing?	No
Stacking?	Yes (traps)
Competitive or Quota Management?	Competitive

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

## CURRENT VALUATION

### Licence & Quota Value at December 31, 2016

Category	# Licences	Value/ Foot (\$)	Total Value (\$)
W Licences	189	21,000	145,662,300

### Valuation Comments

- Average licence value based on \$21,000 per foot and 36.7' vessel = \$770,700
- Transactions ranged from \$18,000 - \$23,000 per foot
- 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

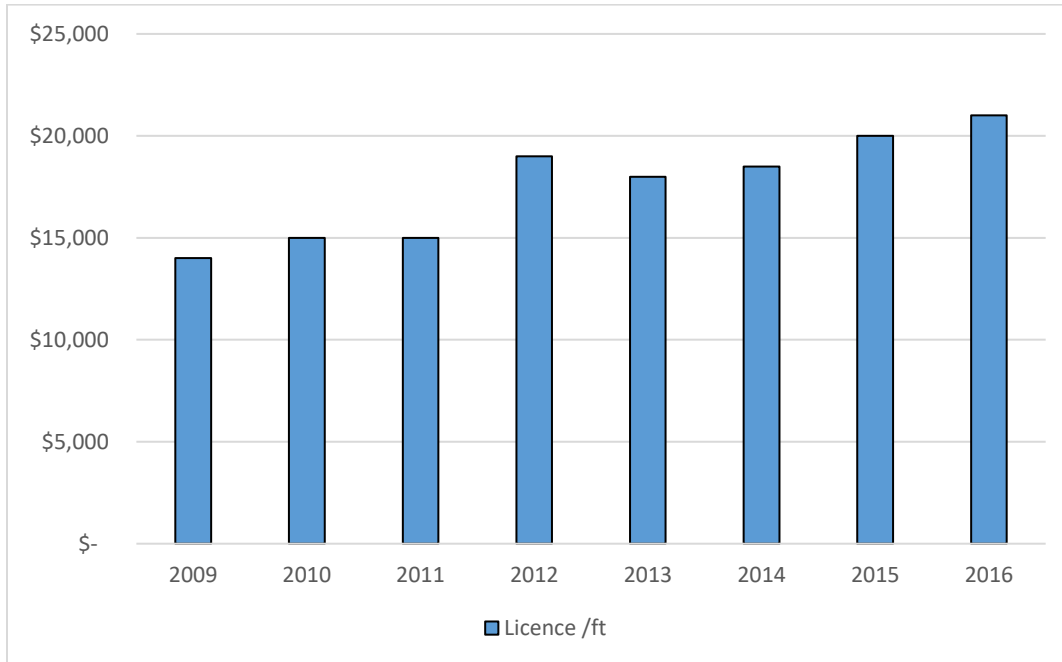
Licence Length	Value	Value per
30 feet	\$650,000	\$22,916
42 feet	\$800,000	\$19,000



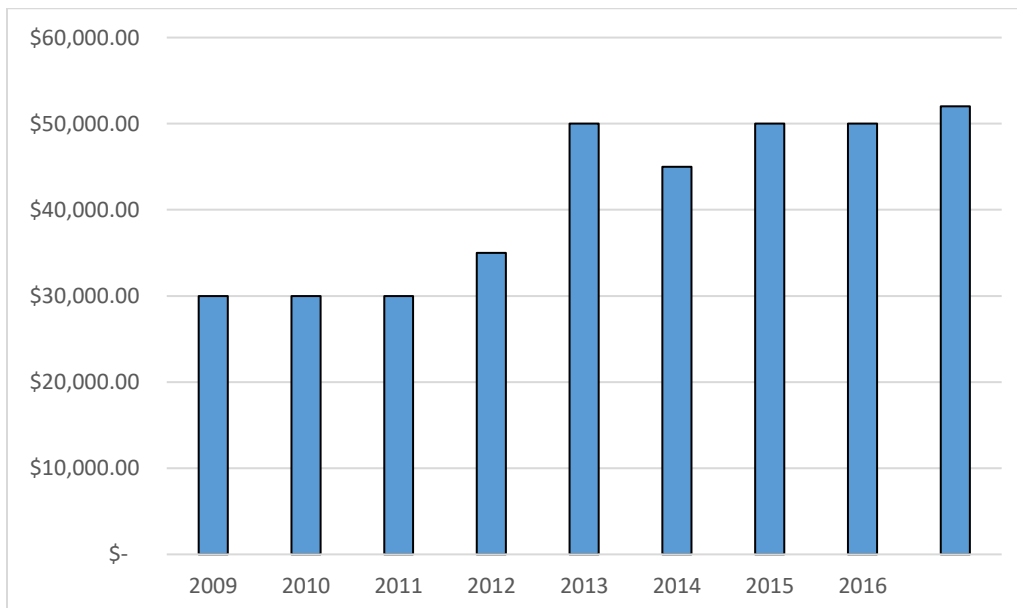


## LICENCING TRENDS

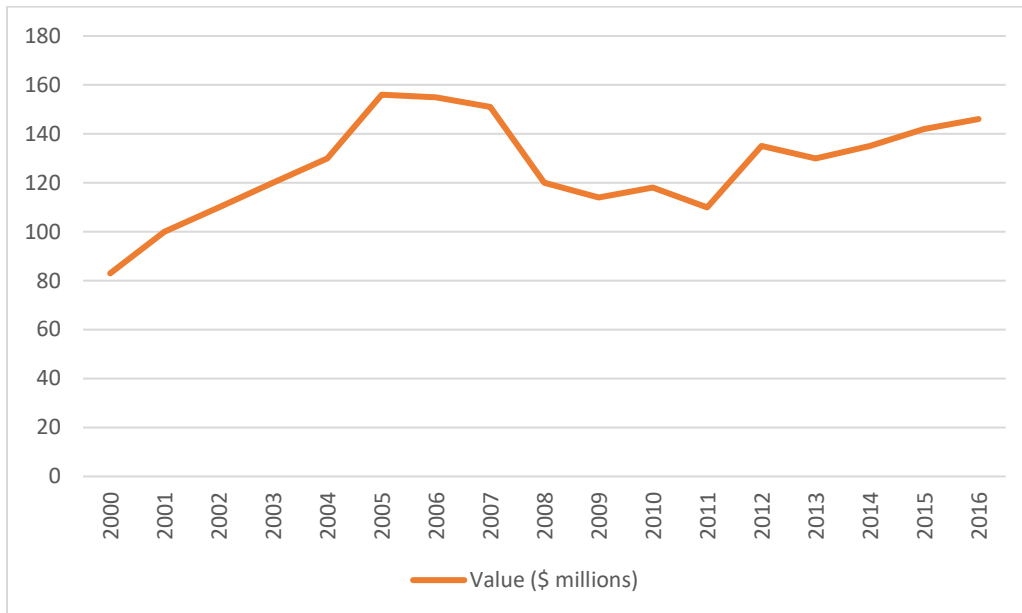
### Recent W License Valuations (Nominal \$s – not adjusted for inflation)



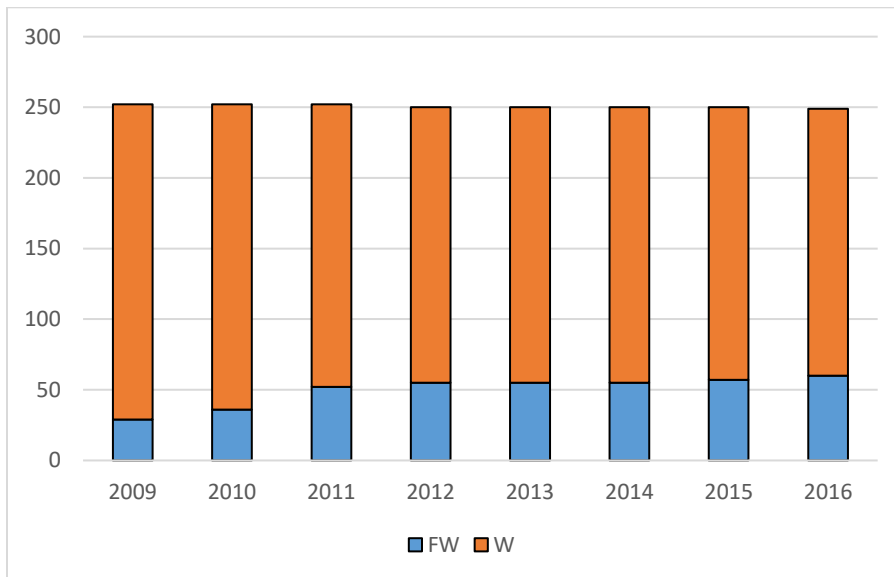
### Recent W Licence Lease Rates (\$ per lb)



## Aggregate Value of W Licenses (\$ millions by year)



## W Licence Country by Category



Four W licences were relinquished in 2016.

## Outlook/ Commentary

- After a small drop in 2013's valuation, the W licence has increased in value in three consecutive years and that trend will likely continue into 2017
- The prawn fishery had a bit of setback last year, but industry experts believe that will short lived



# SHELLFISH: Crab

## BACKGROUND TO VALUATION

General	
License Category	R
Nature of License	Vessel-based
# Commercial Licences	189
# Communal Commercial Licenses	32
Area Licensing?	7 areas
Stacking?	No
Competitive or Quota Management?	Competitive

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

## CURRENT VALUATION

### Licence Value at December 31, 2016

Category	# Licences	Value/ Foot (\$)	Total Value (\$)
R Licences	189	18,500	108,391,500

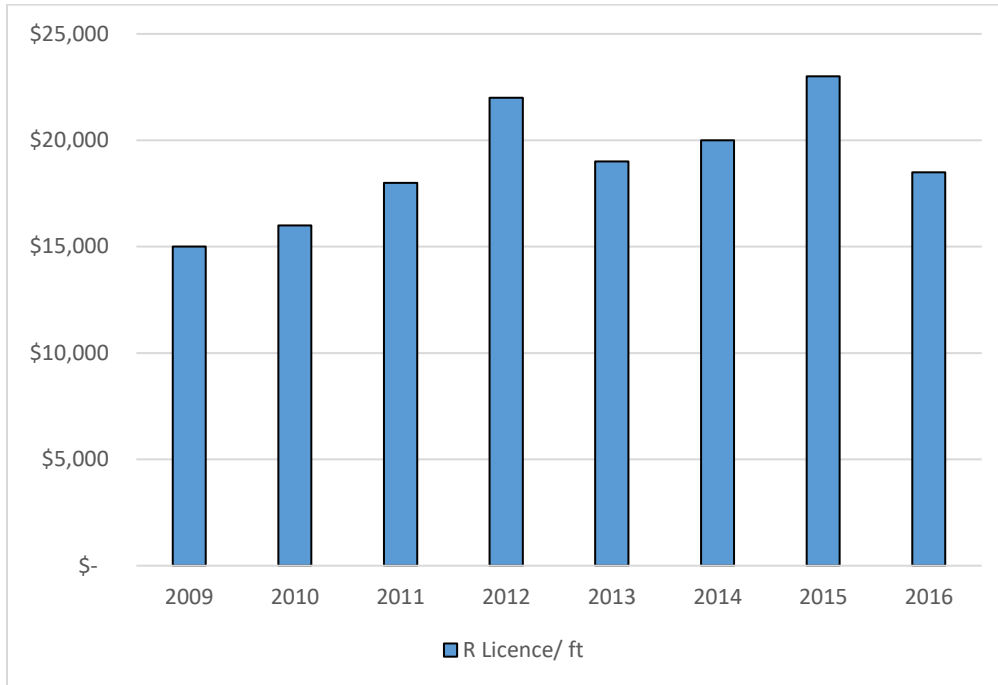
### Valuation Comments

- Average licence value based on \$18,500 per foot and 31' vessel = \$573,500
- The transactions researched ranged from \$10,500/ ft - \$22,000/ ft
- Values range widely by area and length for crab licences
  - Areas A, E, and I were closer to \$20,000 /ft - \$22,000/ ft
  - Areas B, G, and H were closer to \$15,000 /ft
  - Area J was closer to \$10,000/ ft
- F-category crab licences lease in the \$35,000 to \$45,000 range. General category R licences are seldom leased because of the restrictions associated with vessel-based licences
- A larger sample of market transactions would give the author a higher confidence in this valuation as the variance in prices by area in length vary greatly
- A larger sample of market transactions would give the author a higher confidence in this valuation as the variance in prices by area in length vary greatly

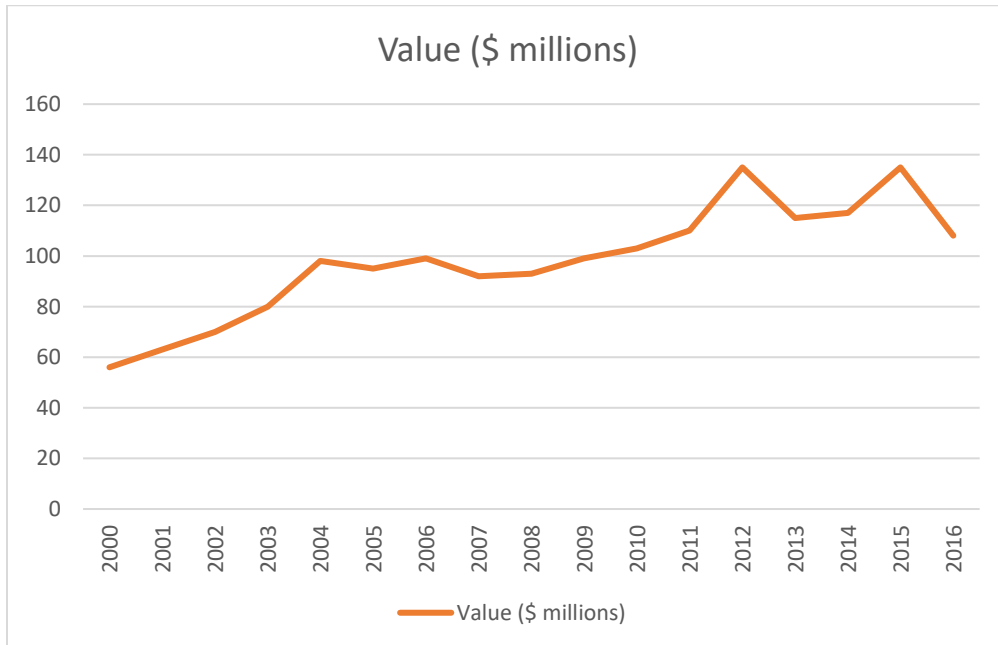


## LICENCING TRENDS

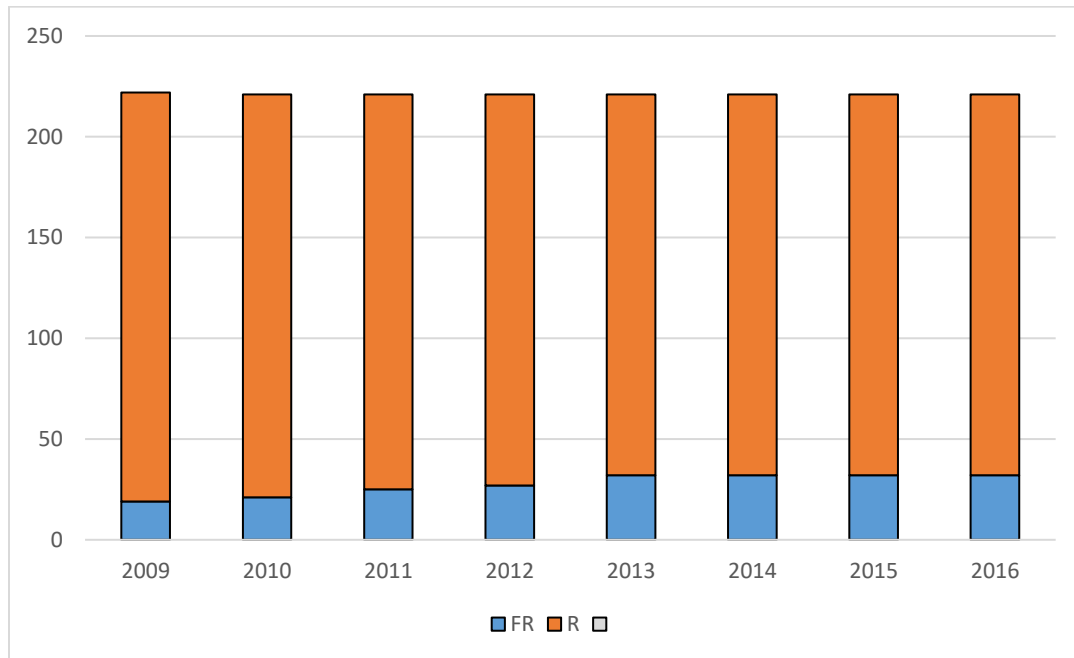
### Recent R License Valuations (Nominal \$s – not adjusted for inflation)



### Aggregate Value of R Licenses (\$ millions by year)



## R Licence Counts by Category



## Outlook/ Commentary

- Productivity will continue to vary widely by area with area A, E, and I being the most productive



# SHELLFISH: Shrimp-by-Trawl

## BACKGROUND TO VALUATION

General	
License Category	S
Nature of License	Vessel-based
# Commercial Licences	212
# Communal Commercial Licences	25
Area Licensing?	No
Stacking?	No
Competitive or Quota Management?	Competitive

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

## CURRENT VALUATION

### Licence Value at December 31, 2016

Category	# Licences	Value/ Foot (\$)	Total Value (\$)
S Licences	212	1,000	8,882,800

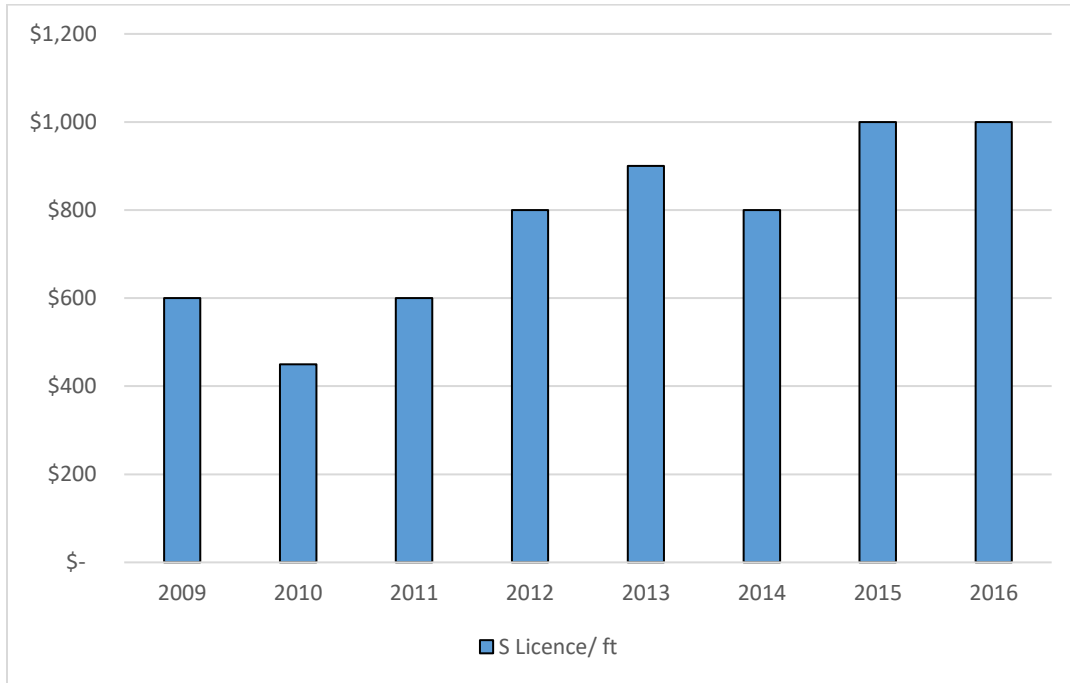
### Valuation Comments

- An average licence value based on a \$1,000 per foot valuation and a 41'9" average vessel length is \$41,900
- Transactions researched ranged from \$800 /ft – \$3,000 / ft. The reason for this variance is that shrimp fishing for smaller vessels (<50') remains challenging, while lucrative opportunities for larger vessels to fish pink shrimp off of the west coast of Vancouver Island exist
- The lease market for shrimp licences was all but non-existent in 2016

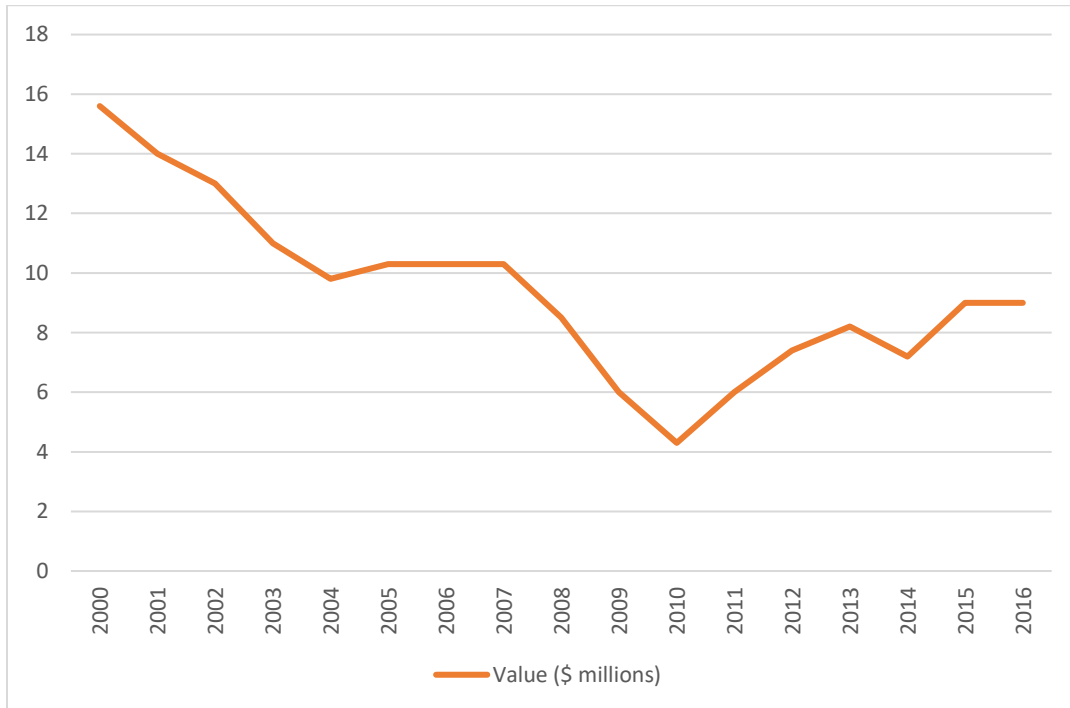


## LICENCING TRENDS

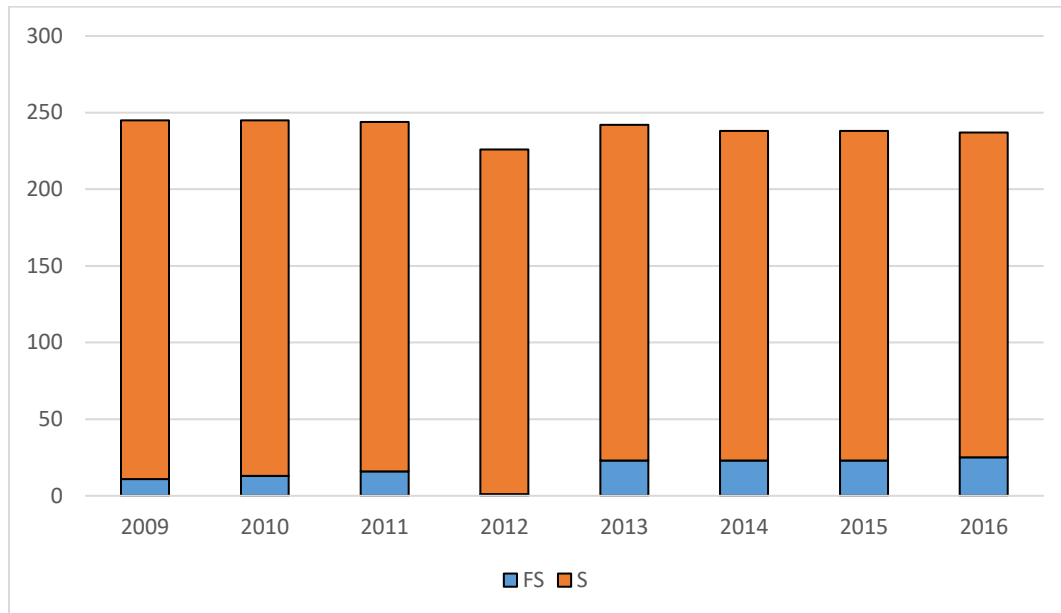
### Recent S License Valuations (Nominal \$s – not adjusted for inflation)



### Aggregate Value of S Licenses (\$ millions by year)



## S Licence Counts by Category



## Outlook/ Commentary

- The West Coast is home to vast numbers of sustainable pink, sidestripe and humpback shrimp, however, the infrastructure does not exist (processing plants) to get them to market





# SHELLFISH: Geoduck/ Horseclam

## BACKGROUND TO VALUATION

General	
License Category	G
Nature of License	Vessel-based
# Commercial Licences	50
# Communal Commercial Licenses	5
Area Licensing?	3 areas
Stacking?	Yes
Competitive or Quota Management?	quota

Valuation Parameters	
License	Per Licence
Quota	Per Block
Vessels	Yes
Amount of trading activity in category this year	Low (Licences w/ 10 blocks)
# Transactions underlying valuation	≈ 8
Confidence in current year valuations	Med

## CURRENT VALUATION

### Licence & Quota Value at December 31, 2016

Category	# Licences	Value/ Licence/ quota block (\$)	Total Value (\$)
G Licences	50	250,000	12,500,000
Quota Blocks	500	585,000	292,500,000
Total Value			305,000,000

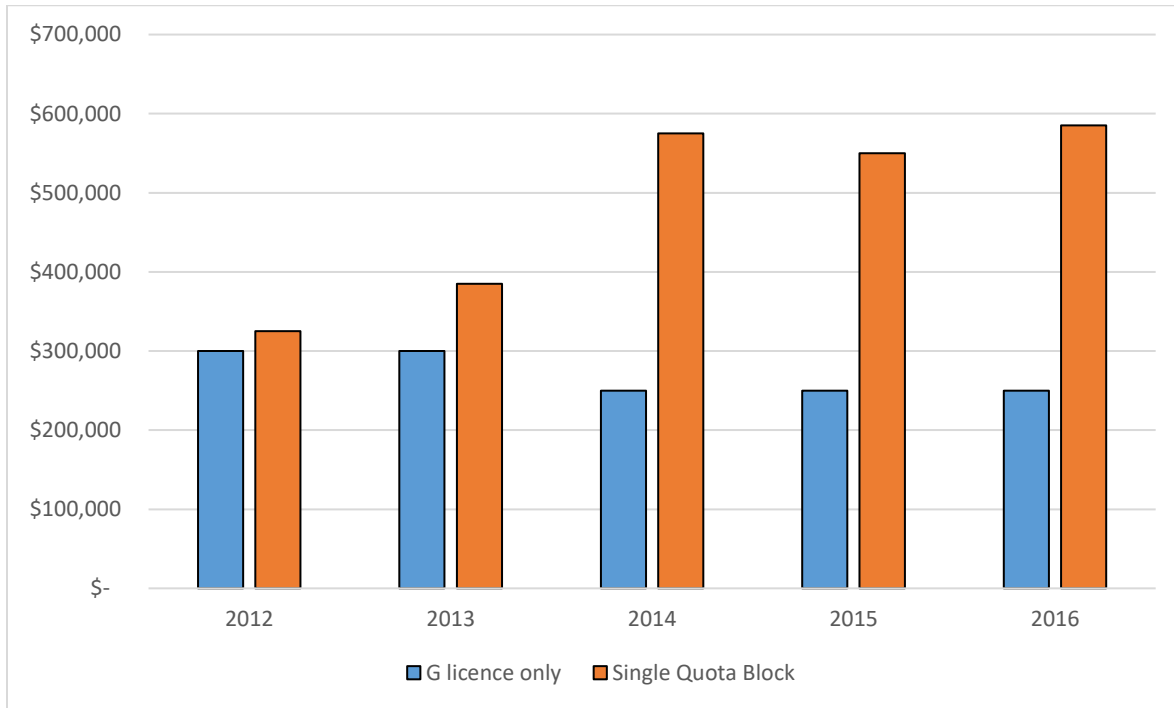
### Valuation Comments

- Quota block values range from \$560,000 - \$700,000
- Prices were for unfished quota blocks were seen as high as \$650,000 by summer of 2016
- Early 2017 has quota blocks pushing up to \$620,000 or more
- Supply is extremely tight at current prices
- Similar to the 2015 valuation, the above valuation suggest that a G licence with 10 blocks of quota would command a value of \$6.1M (\$250,000 licence plus \$5.85M for 10 quota blocks)

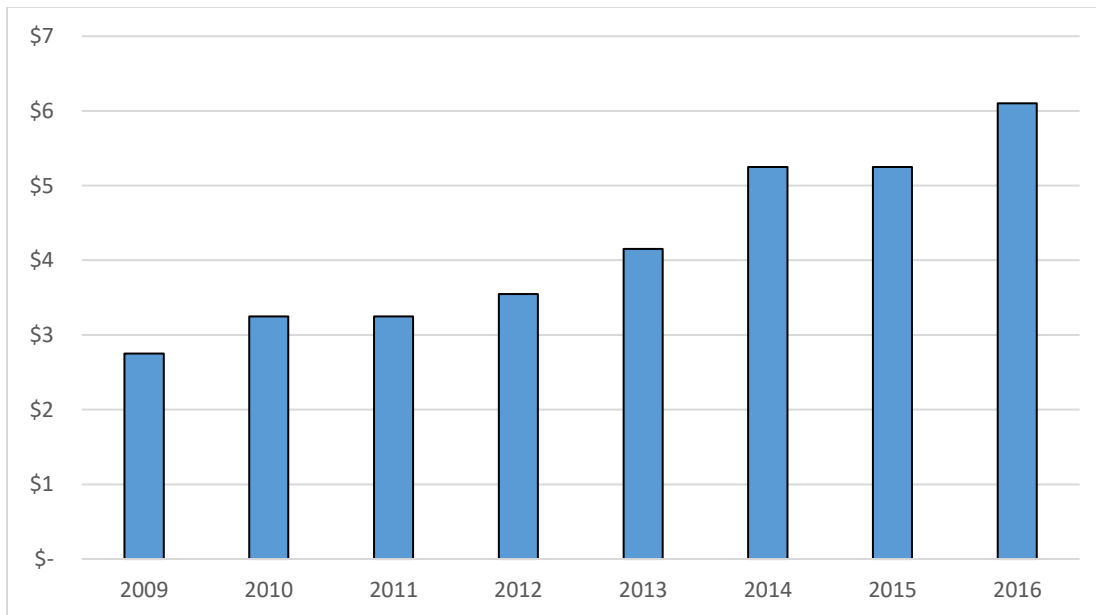


## LICENCING TRENDS

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



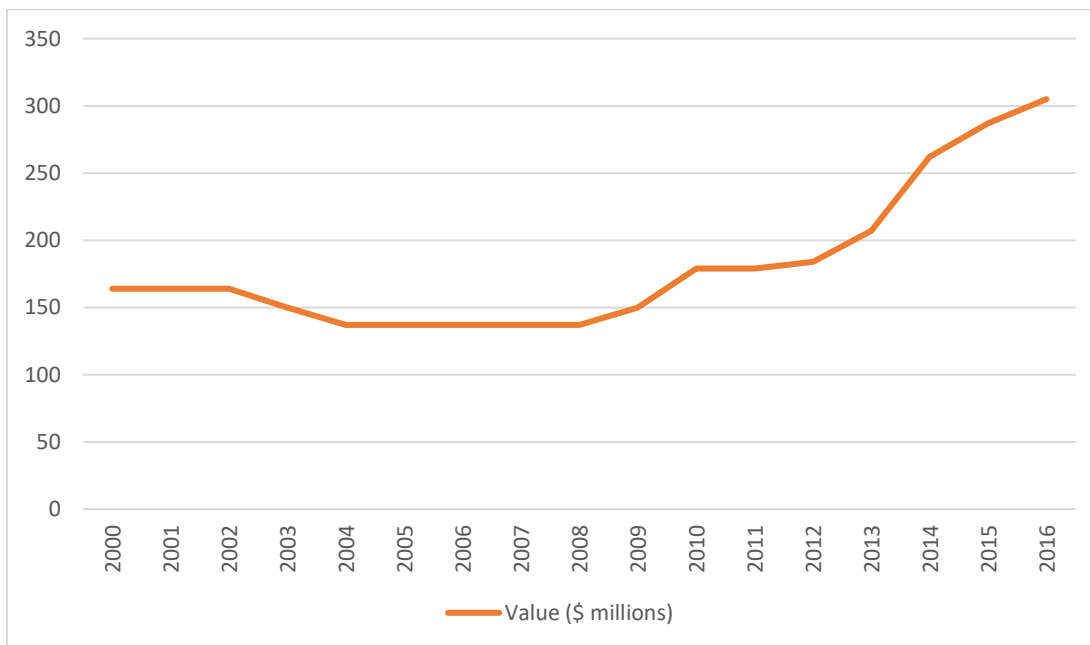
Recent G License Valuations (\$ millions)



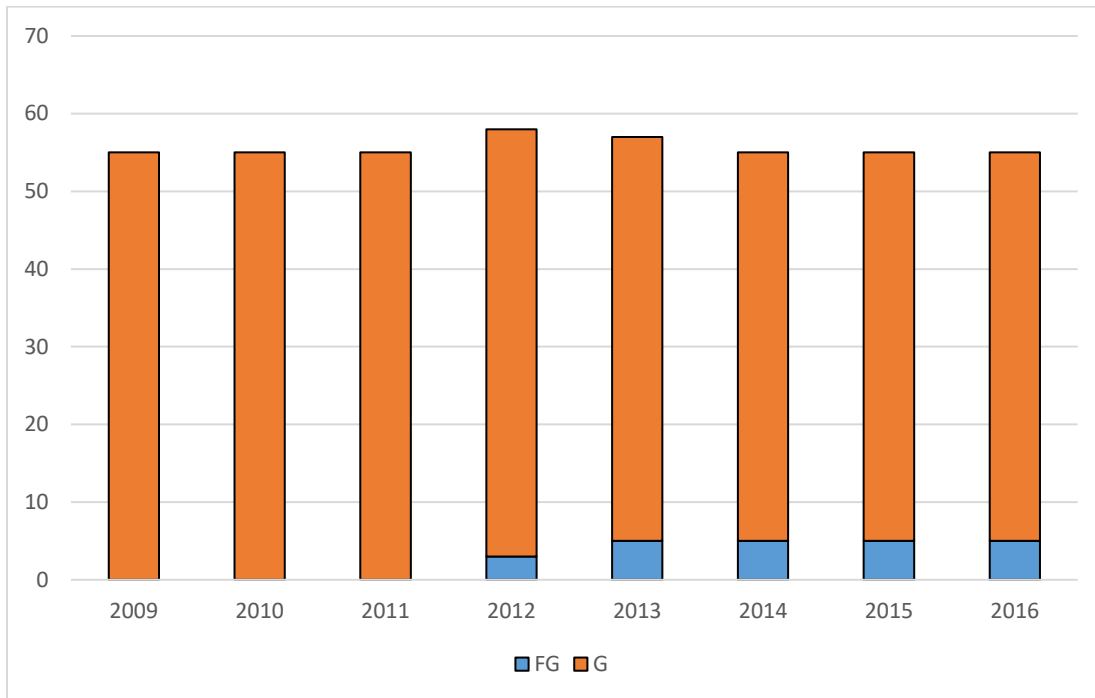
## Recent G Licence Lease Rates (\$ per lb)



## Aggregate Value of G Licenses (\$ millions by year)



## G Licence Counts by Category



## Outlook/ Commentary

- The fishery occurs year round to provide consistent product to markets, primarily in China
- The intent of allowing blocks to be divided up was meant, in part, to improve liquidity in the market, however, the sustained levels of high profitability have left licence/block holders reluctant to sell
- Further, the fishery's sustained levels of high profitability have been attracting large amounts of investment capital

# SHELLFISH: Sea Cucumber

## BACKGROUND TO VALUATION

General	
License Category	ZD
Nature of License	Part-based
# Commercial Licences	84
# Communal Commercial Licences	1
Area Licensing?	4 areas
Stacking?	Yes
Competitive or Quota Management?	Quota

Valuation Parameters	
License	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, 2016

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
ZD Licences	84	825,000	69,300,000

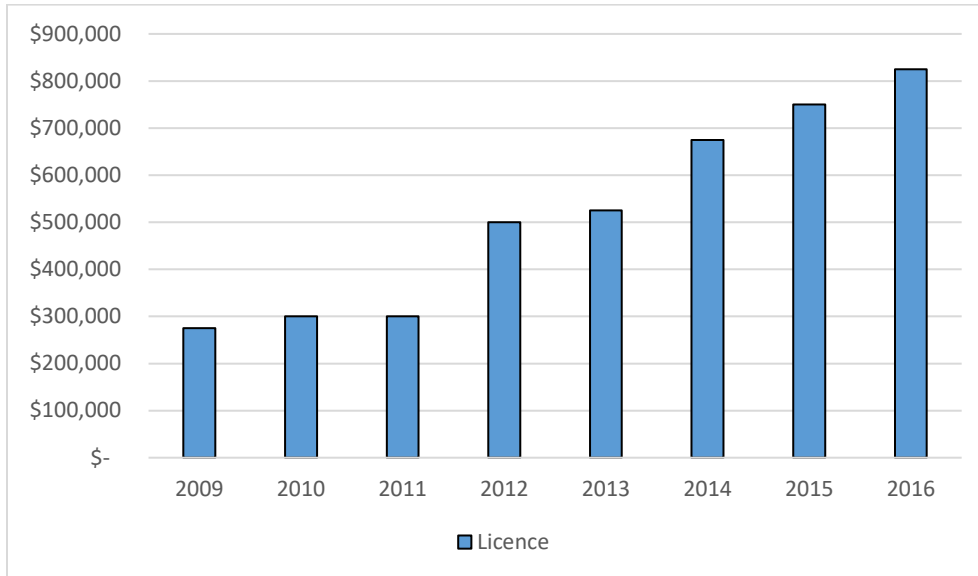
### Valuation Comments

- Transactions researched for this report varied widely from \$650,000 - \$1,000,000
- The number of transactions in this fishery was likely very low as at current profitably levels the market for the few licences that are available is tight
- There are a lot of people looking to purchase but not a lot of licence holders looking to sell

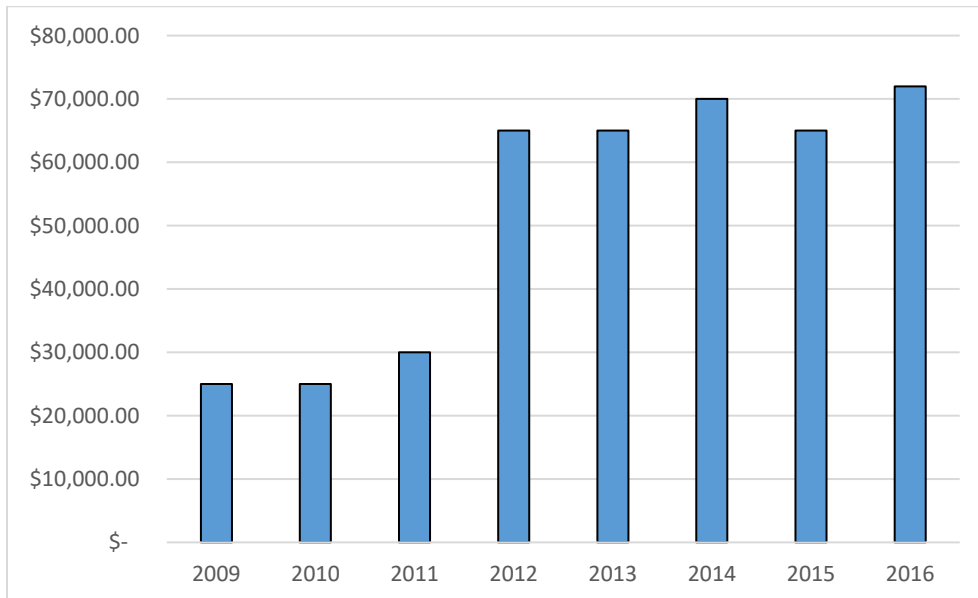


## LICENCING TRENDS

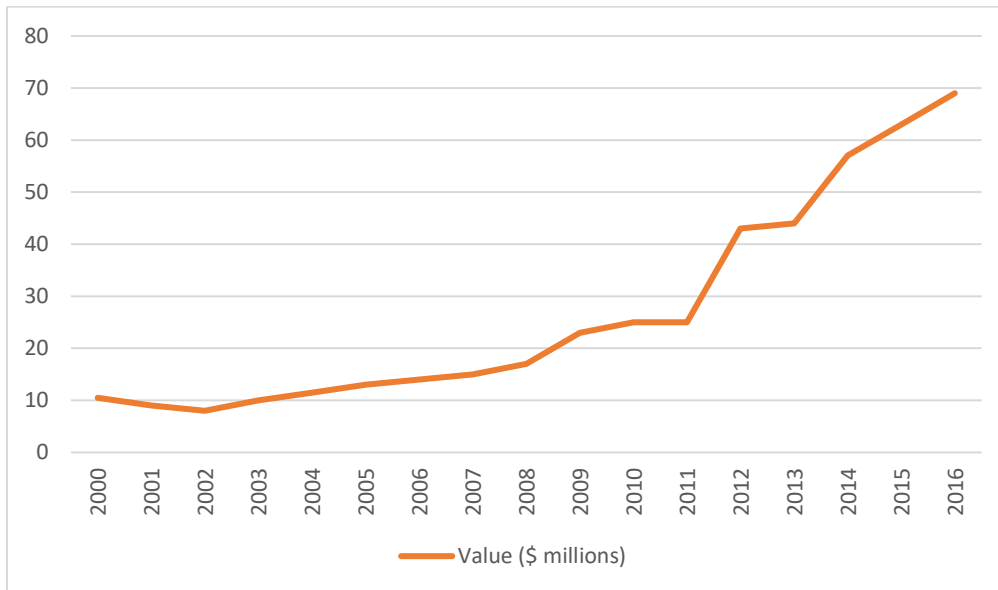
### Recent ZD License Valuations (Nominal \$s – not adjusted for inflation)



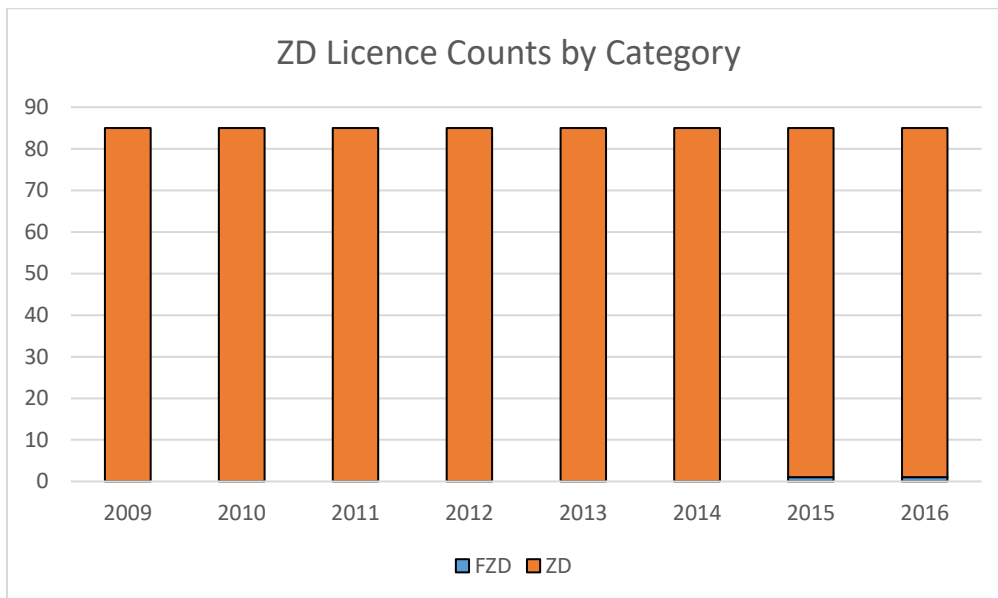
### Recent ZD Licence Lease Rates (\$ per lb)



## Aggregate Value of ZD Licenses (\$ millions by year)



## ZD Licence Counts by Category



2015 saw the first relinquishment of a ZD licence, and there remains only 1 in 2016.

## Outlook/ Commentary

- As noted in the 2015 report, “the fishery continues to be strong, with some belief that the stocks are healthy and may in fact be under-exploited”
- 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



# SHELLFISH: Red Sea Urchin

## BACKGROUND TO VALUATION

General	
License Category	ZC
Nature of License	Part-Based
# Commercial Licences	80
# Communal Commercial Licences	30
Area Licensing?	2 Areas
Stacking?	Yes
Competitive or Quota Management?	Quota

Valuation Parameters	
License	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, 2016

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
ZC Licences	80	91,000	7,280,000

### Valuation Comments

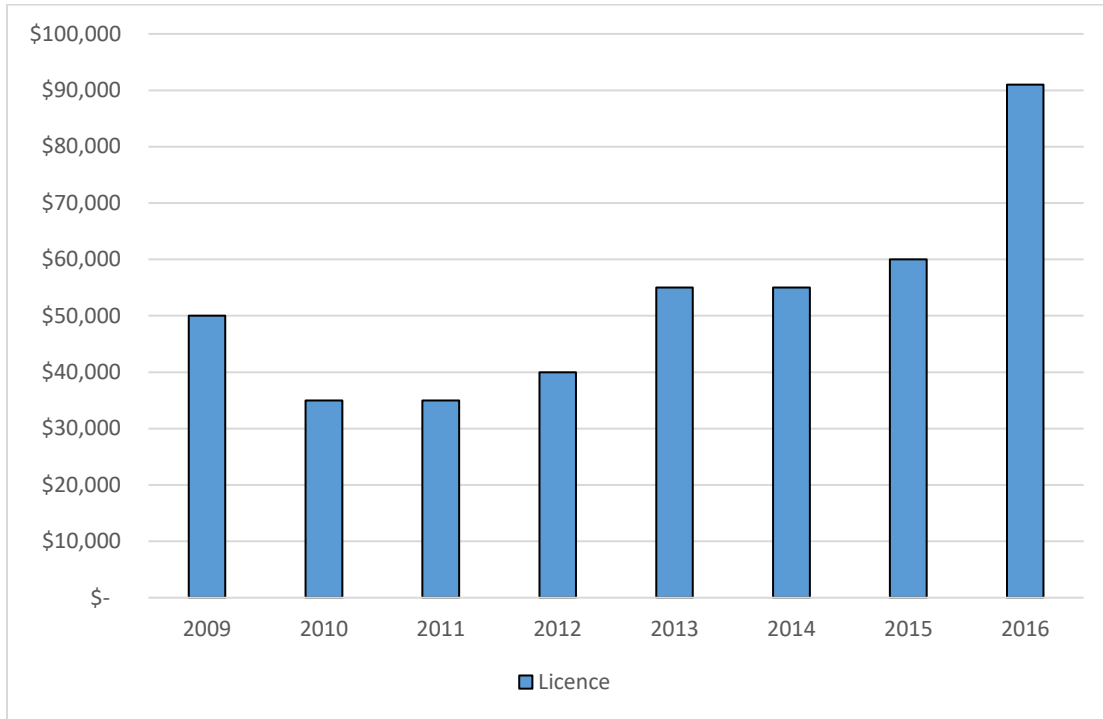
- Transactions for ZC licences varied widely from as low as \$50,000 to as high as \$140,000
- The report writer has a low confidence level in the valuation due to a combination of the # of underlying transactions in the valuation and the wide range in recorded transactions
- The much higher value than what was recorded in 2015 (52% higher) could be due to improvements in the fishery over the last few years and increasing lease rates



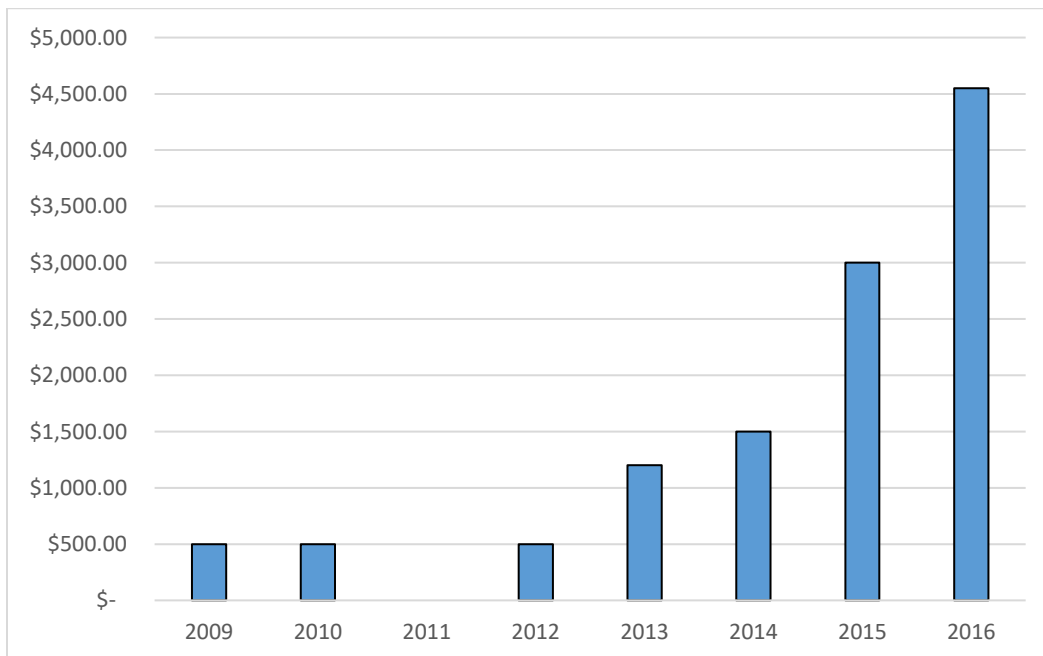


## LICENCING TRENDS

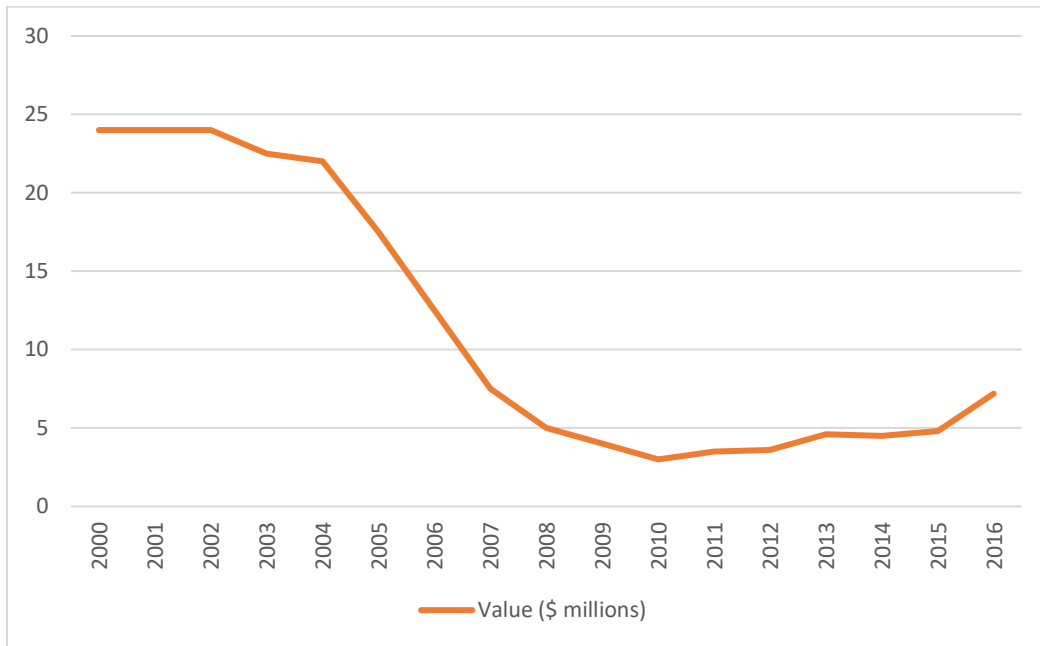
### Recent ZC License Valuations (Nominal \$s – not adjusted for inflation)



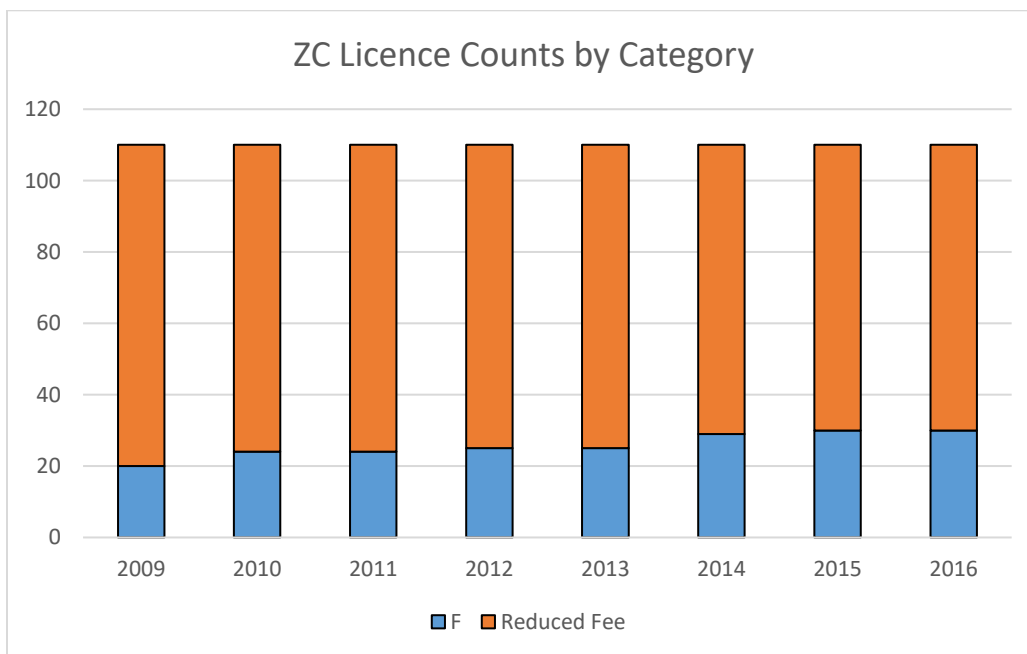
### Recent ZC Licence Lease Rates (\$ per lb)



## Aggregate Value of ZC Licenses (\$ millions by year)



## ZC Licence Counts by Category



## Outlook/ Commentary

- Market fundamentals in this fishery have been improving and in turn tightening the market for licences and increasing lease rates



# SHELLFISH: Green Sea Urchin

## BACKGROUND TO VALUATION

General	
License Category	ZA
Nature of License	Party-Based
# Commercial Licences	48
# Communal Commercial Licenses	1
Area Licensing?	Yes
Stacking?	Yes
Competitive or Quota Management?	Quota

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

## CURRENT VALUATION

### Licence & Quota Value at December 31, 2016

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
ZA Licences	48	30,000	1,440,000

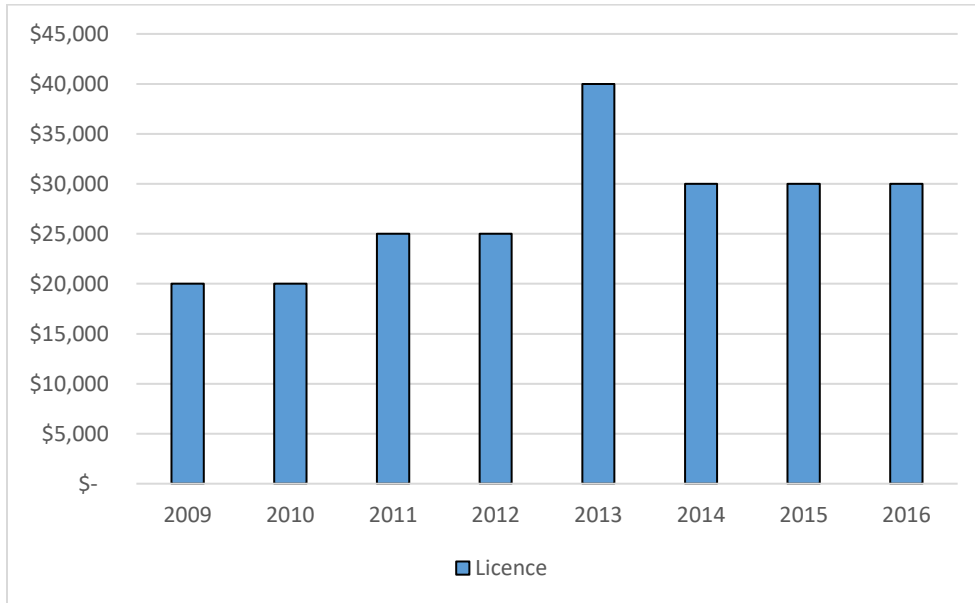
### Valuation Comments

- No market transactions were uncovered for the purposes of this report
- There was very limited to no transaction activity during the valuation period for green sea urchin licences

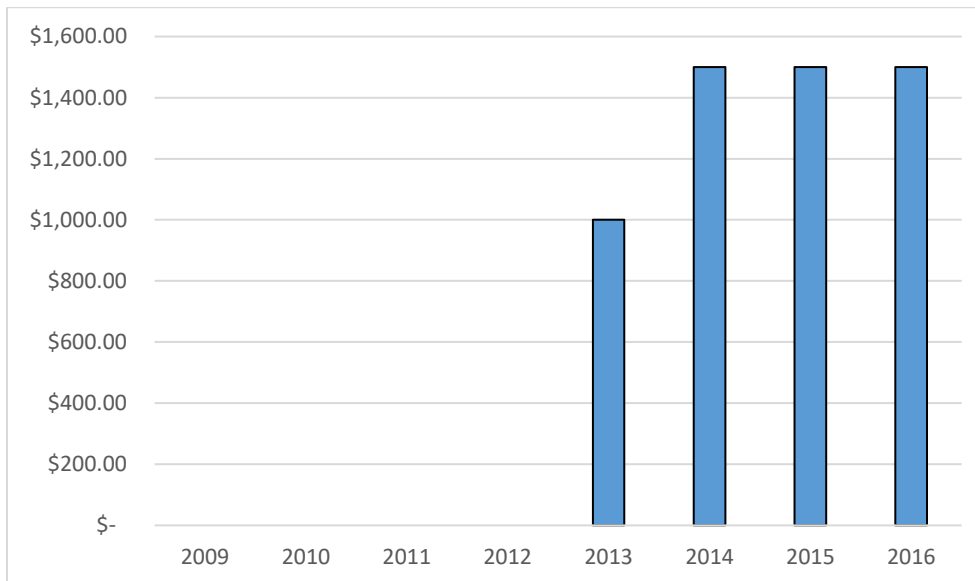


## LICENCING TRENDS

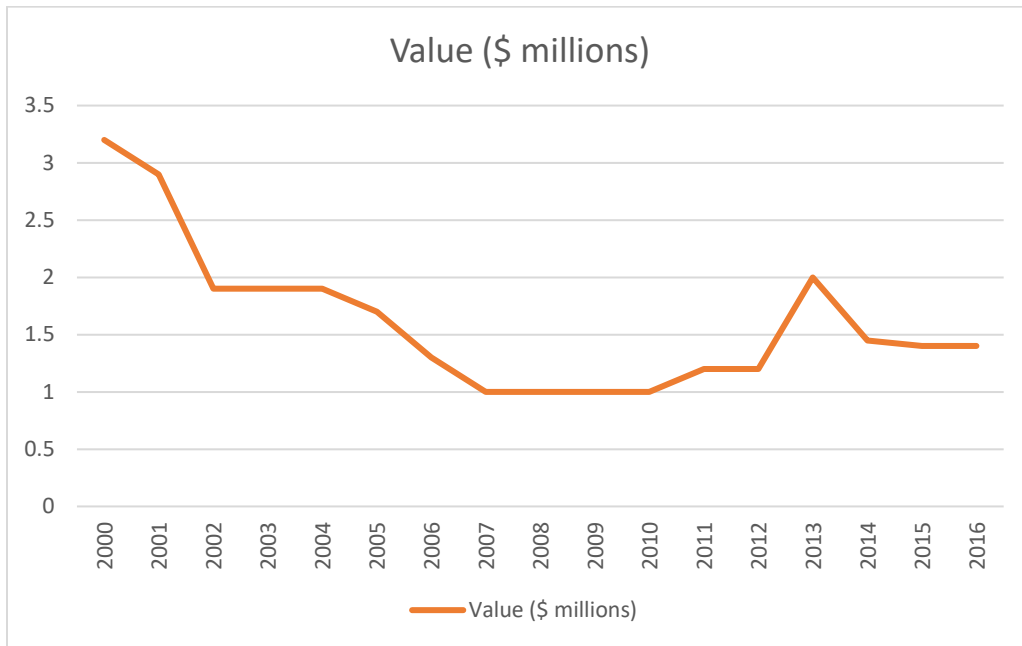
### Recent ZA License Valuations (Nominal \$s – not adjusted for inflation)



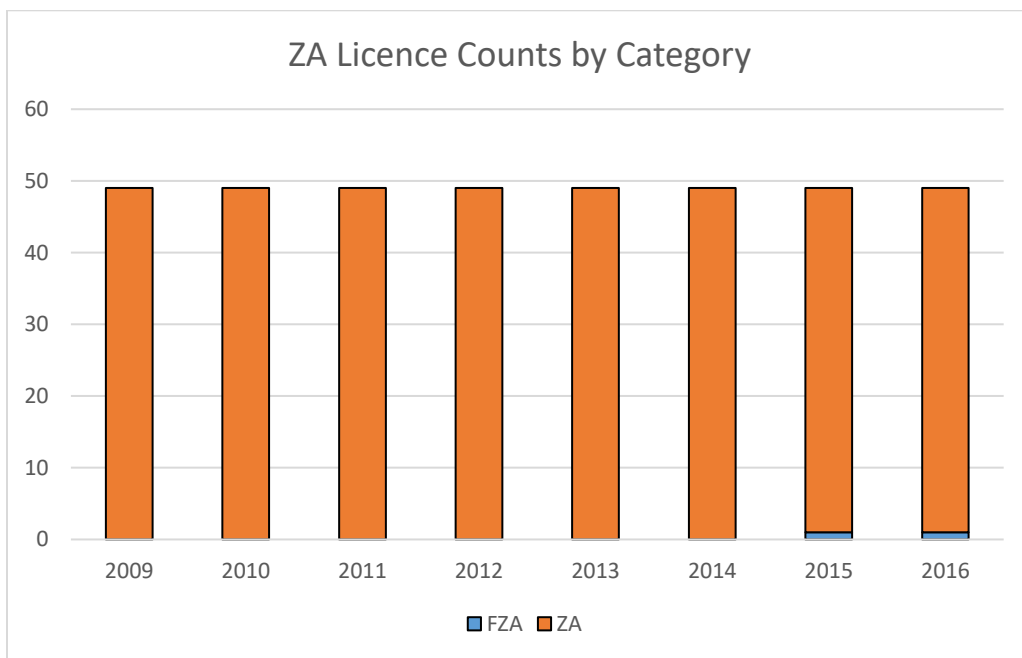
### Recent ZA Licence Lease Rates (\$ per lb)



### Aggregate Value of ZA Licenses (\$ millions by year)



### ZA Licence Counts by Category



There were no new relinquishments of ZA licences in 2016





## Outlook/ Commentary

- As noted in the 2015 report, the circumstances in the green sea urchin fishery mirror those in the red sea urchin fishery. I.e., Improving profitability and increasing lease rates

# SHELLFISH: Euphausiid

## BACKGROUND TO VALUATION

General	
License Category	ZF
Nature of License	Part-Based
# Commercial Licences	16
# Communal Commercial Licences	1
Area Licensing?	No
Stacking?	No
Competitive or Quota Management?	Quota

Valuation Parameters	
License	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	Low

## CURRENT VALUATION

### Licence & Quota Value at December 31, 2016

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

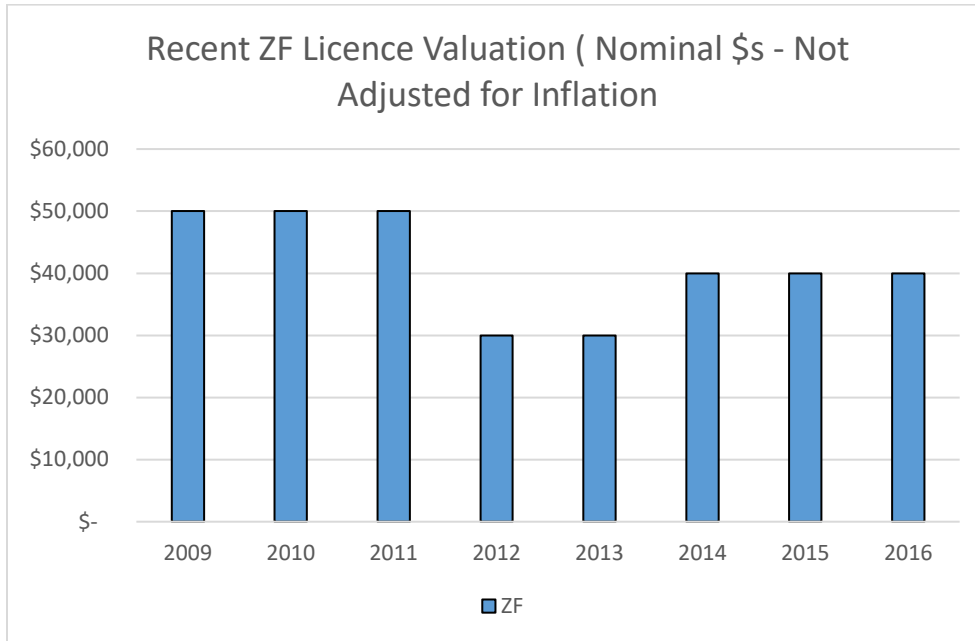
### Valuation Comments

- No transaction activity recorded for 2016. Anecdotal information from 2015 indicated values in the \$40,000 to \$50,000 range

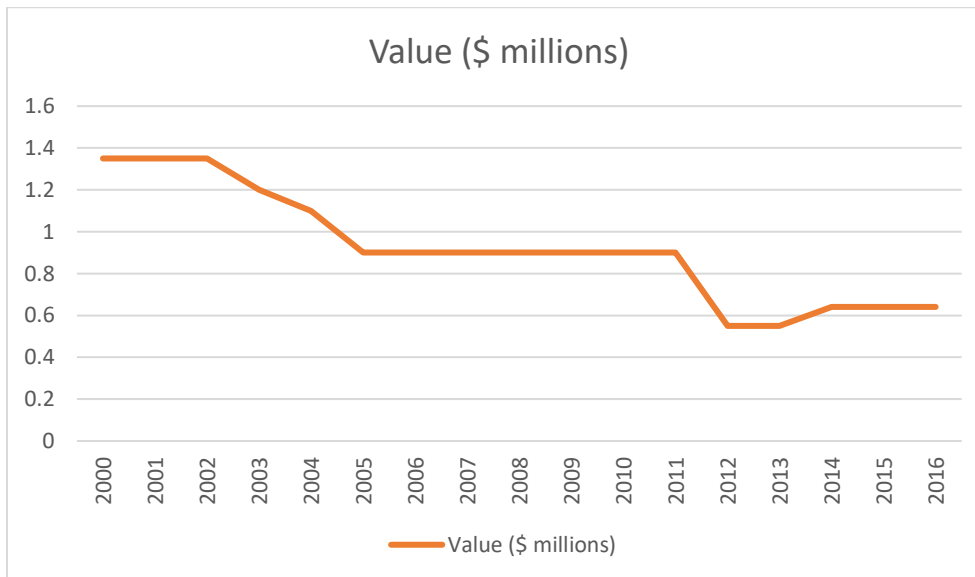


## LICENCING TRENDS

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

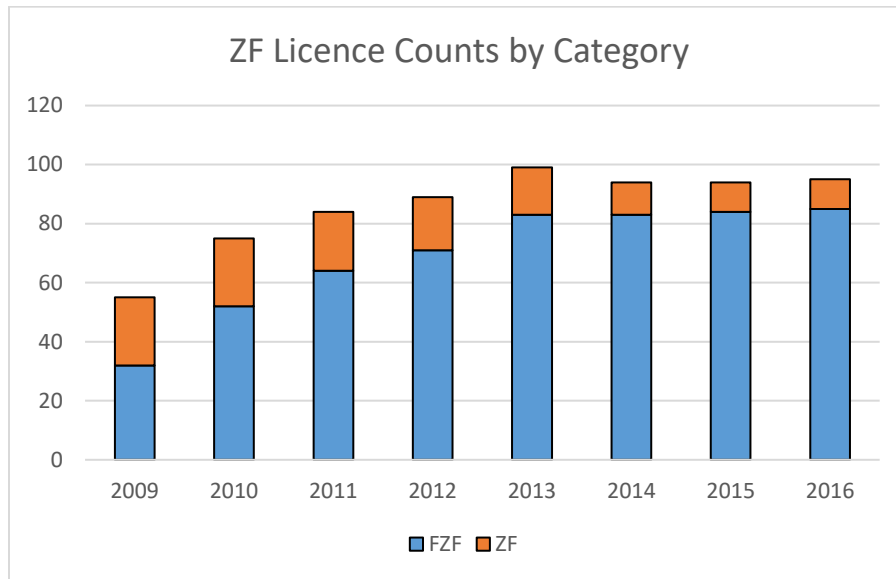


### Aggregate Value of ZF Licenses (\$ millions by year)





## ZF Licence Counts by Category



There were no new relinquishments of ZF licences in 2016

## Outlook/ Commentary

- Outlook in this small-scale fishery is uncertain as little information could be provided by industry experts

# Schedule II Species

## BACKGROUND TO VALUATION

General	
License Category	C
Nature of License	Vessel-based
# Commercial Licences	332
# Communal Commercial Licences	14
Area Licensing?	No
Stacking?	No
Competitive or Quota Management?	Various

Valuation Parameters	
License	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	Low

## CURRENT VALUATION

### Licence Value at December 31, 2016

Category	# Licences	Value/ Foot (\$)	Total Value (\$)
C Licences	332	500	5,644,000

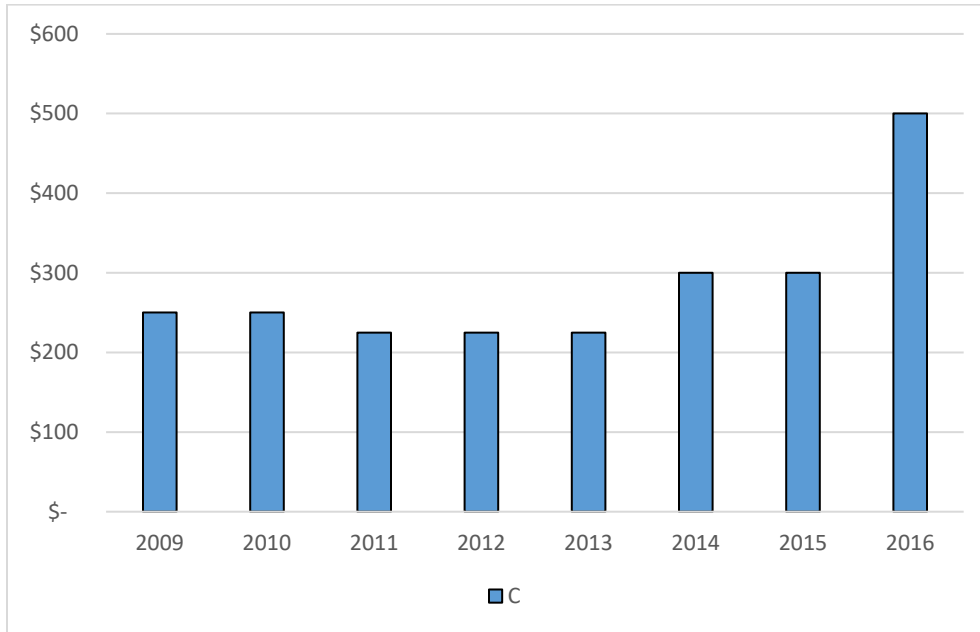
### Valuation Comments

- Transactions for C licences range from about \$200 - \$1,000 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
- The drop in licences in 2015 to 2016 from 367 to 332 could have had an effect on the upward pressure in C licence prices

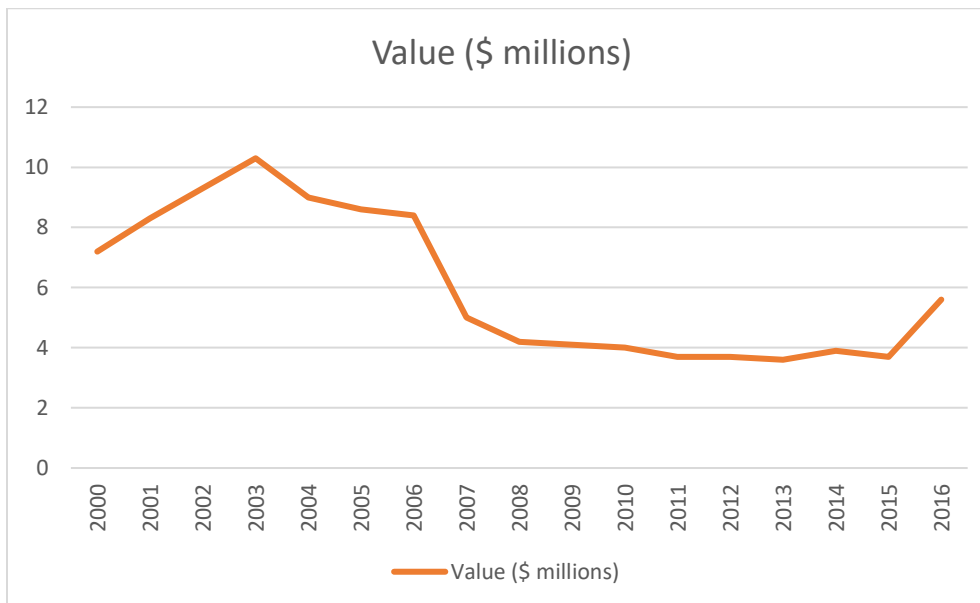


## LICENCING TRENDS

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



### Aggregate Value of C Licenses (\$ millions by year)



## C Licence Counts by Category



## Outlook/ Commentary

- As noted in the 2015 report, “C licences bring few fishing rights – values are propped-up primarily because of a declining pool of licences”



# Summary

## AGGREGATE VALUE OF LICENCES AND QUOTA AT DECEMBER 31, 2016

Fishery Grouping	Fishery	License Desc.	# of Licenses	Average Licence Value (\$)	Aggregate Licence Value (\$)	Aggregate Quota Value (\$)	Total License & Quota Value (\$)
Salmon	Salmon Seine	AS	210	\$ 423,214	\$ 88,874,940	\$ -	\$ 88,874,940
	Salmon Gillnet	AG	824	\$ 64,320	\$ 52,999,680	\$ -	\$ 52,999,680
	Salmon Troll	AT	348	\$ 144,568	\$ 50,309,664	\$ -	\$ 50,309,664
Pelagics	Herring - Roe Seine	HS	241	\$ 49,025	\$ 11,815,025	\$ -	\$ 11,815,025
	Herring - Roe Gillnet	HG	994	\$ 30,621	\$ 30,437,274	\$ -	\$ 30,437,274
	Herring - Spawn on Kelp	J	34	\$ 175,000	\$ 5,950,000	\$ -	\$ 5,950,000
	Tuna	USA 68	110	n/a	n/a	\$ -	n/a
	Sardine	ZS	25	n/a	n/a	\$ -	n/a
Groundfish	Halibut	L	343	\$ 64,200	\$ 22,020,600	\$ 583,204,430	\$ 605,225,030
	Sablefish	K	41	\$ 250,000	\$ 10,250,000	\$ 280,787,850	\$ 291,037,850
	Groundfish Trawl	T	135	\$ 74,666	\$ 10,079,910	\$ 280,786,670	\$ 290,866,580
	Rockfish Inside	ZN	54	\$ 36,000	\$ 1,944,000	\$ -	\$ 1,944,000
	Rockfish Outside	ZN	158	\$ 180,000	\$ 28,440,000	\$ -	\$ 28,440,000
	Lingcod Hook & Line		n/a	n/a	n/a	\$ 23,356,838	\$ 23,356,838
	Dogfish Hook & Line		n/a	n/a	n/a	\$ 1,888,901	\$ 1,888,901
Shellfish	Prawn	W	189	\$ 770,000	\$145,530,000	\$ -	\$ 145,530,000
	Crab	R	189	\$ 573,500	\$108,391,500	\$ -	\$ 108,391,500
	Shrimp	S	212	\$ 41,900	\$ 8,882,800	\$ -	\$ 8,882,800
	Geoduck	G	50	\$6,100,000	\$305,000,000	\$ -	\$ 305,000,000
	Sea Cucumber	ZD	84	\$ 825,000	\$ 69,300,000	\$ -	\$ 69,300,000
	Red Sea Urchin	ZC	80	\$ 91,000	\$ 7,280,000	\$ -	\$ 7,280,000
	Green Sea Urchin	ZA	48	\$ 30,000	\$ 1,440,000	\$ -	\$ 1,440,000
	Euphausiid	ZF	16	\$ 40,000	\$ 640,000	\$ -	\$ 640,000
Schedule II	Schedule II Species	C	332	\$ 17,000	\$ 5,644,000	\$ -	\$ 5,644,000
					<b>\$965,229,393</b>	<b>\$ 1,170,024,689</b>	<b>\$2,135,254,082</b>

