

## **West Coast Fishing Fleet**

# **Analysis of Commercial Fishing Licence, Quota, and Vessel Values**

**As at March 31, 2015**

**Prepared for Fisheries and Oceans Canada, Pacific Region**

**Stuart Nelson  
Nelson Bros Fisheries Ltd**

## Table of Contents

Introduction.....	1
Methodology .....	9
SALMON: Salmon Seine .....	12
SALMON: Salmon Gillnet.....	16
SALMON: Salmon Troll .....	20
PELAGICS: Roe Herring Seine.....	24
PELAGICS: Roe Herring Gillnet.....	29
PELAGICS: Herring Spawn on Kelp .....	33
PELAGICS: Tuna and Sardine .....	36
GROUNDFISH: Halibut.....	39
GROUNDFISH: Sablefish (Black Cod).....	44
GROUNDFISH: Groundfish Trawl .....	49
GROUNDFISH: Rockfish Hook & Line .....	54
GROUNDFISH: Lingcod and Dogfish.....	59
SHELLFISH: Prawn-by-Trap .....	60
SHELLFISH: Crab .....	64
SHELLFISH: Shrimp-by-Trawl .....	68
SHELLFISH: Geoduck/Horseclam.....	72
SHELLFISH: Sea Cucumber .....	77
SHELLFISH: Red Sea Urchin.....	81
SHELLFISH: Green Sea Urchin .....	85
SHELLFISH: Euphausiid .....	89
Schedule II Species .....	93
Summary .....	96

## Introduction

This report offers assessments of licence, quota, lease, and vessel values as of March 31, 2015 for commercial fisheries in BC. The assessments are based where possible on market transactions.

The valuations contained in this report represent the best efforts of the contractor to encapsulate prevailing asset values in the commercial fishery. Since few transactions take place at or near the March 31 valuation date, activity from the last quarter of 2014 through the end of 2015 was considered. The depth and quality of data upon which valuations are based varies by fishery. For fisheries with very limited vessel/licence markets, valuations are based more on inference and anecdotal information than on hard data. This is reflected in the reported “Confidence Level” of each assessment.

As noted in prior reports, each year seems to feature fewer open-market transactions than the last. This is attributed to a number of factors, including: consolidation of licence/quota holdings, licence retirement programs, and poor performance in some of the commercial fisheries. Increasingly, uncovering valuation data and information is a challenge.

This report provides fishery-by-fishery analysis of current and historical licence, quota, lease, and vessel values. The intent of this report is to provide consistent values of, and general information on, assets across fisheries. The report is designed to allow the user to gain useful insights into the current situation and trends prevailing in each fishery.

*The contractor cautions that valuations contained in this study, while reflective of March 31, 2015 licence, quota, lease, and vessel values, should not provide the valuation rationale for any purchase/sale transactions that might be contemplated. Licence and quota values are extremely dynamic, changing dramatically and quickly as harvest volumes, ex-vessel prices, and supply/demand forces change. Valuations provided herein cannot replace the due diligence required to negotiate the “right” price for a fishing vessel, licence, or quota.*

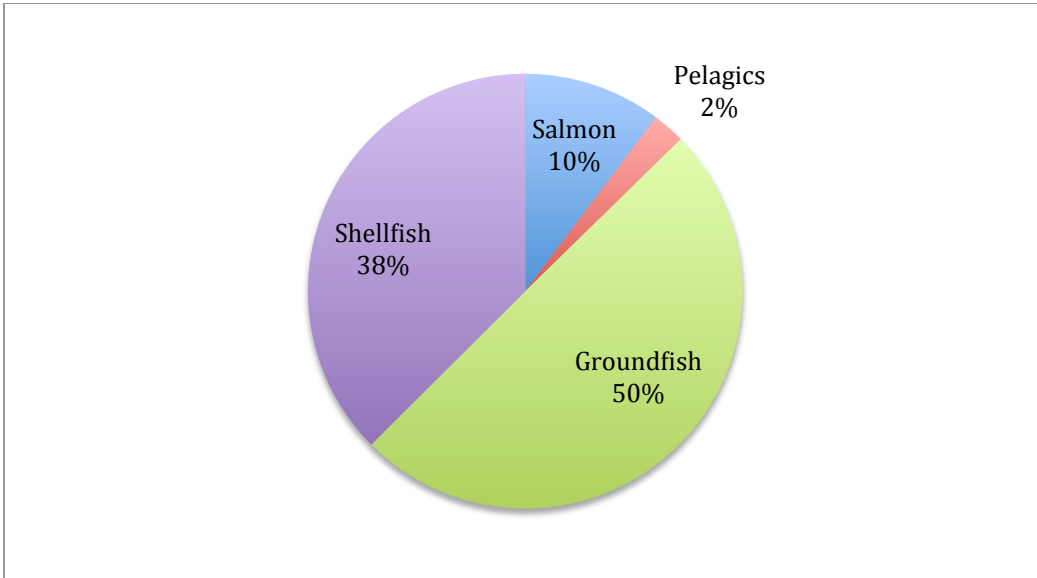
**Summary: Year ending March 31, 2015**

The market capitalization of commercial licences and quota in the BC fishery at March 31, 2015 is summarized in the following table (which excludes F licences and quota relinquished in the halibut and sablefish fisheries):

Fishery Grouping	Fishery	Licence Des.	# Licences	Average Licence Value (\$)	Aggregate Licence Value (\$)	Aggregate Quota Value (\$)	Total Licence & Quota Value (\$)
<b>Salmon</b>	Seine	AS	210	418,571	87,900,000	-	87,900,000
	Gillnet	AG	818	54,315	44,430,000	-	44,430,000
	Troll	AT	350	124,714	43,650,000	-	43,650,000
<b>Pelagics</b>	Herring - Roe Seine	HS	241	49,025	11,815,000	-	11,815,000
	Herring - Roe Gillnet	HG	999	23,734	23,710,000	-	23,710,000
	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
<b>Groundfish</b>	Halibut	L	343	42,800	14,680,400	363,354,488	378,034,888
	Sablefish	K	41	250,000	10,250,000	189,847,413	200,097,413
	Groundfish Trawl	T	135	57,960	7,824,600	217,515,757	225,340,357
	Rockfish Inside	ZN	54	35,000	1,890,000	-	1,890,000
	Rockfish Outside	ZN	158	175,000	27,650,000	-	27,650,000
	Lingcod Hook & Line		-	-	-	20,599,782	20,599,782
	Dogfish Hook & Line		-	-	-	1,679,023	1,679,023
<b>Shellfish</b>	Prawn	W	193	734,000	141,662,000	-	141,662,000
	Crab	R	189	713,000	134,757,000	-	134,757,000
	Shrimp	S	215	41,900	9,008,500	-	9,008,500
	Geoduck	G	50	5,750,000	287,500,000	-	287,500,000
	Sea Cucumber	ZD	84	750,000	63,000,000	-	63,000,000
	Red Sea Urchin	ZC	80	60,000	4,800,000	-	4,800,000
	Green Sea Urchin	ZA	48	30,000	1,440,000	-	1,440,000
	Euphausiid	ZF	16	40,000	640,000	-	640,000
<b>Schedule II</b>	Schedule II Species	C	367	10,200	3,743,400	-	3,743,400
					926,300,900	792,996,463	1,719,297,363

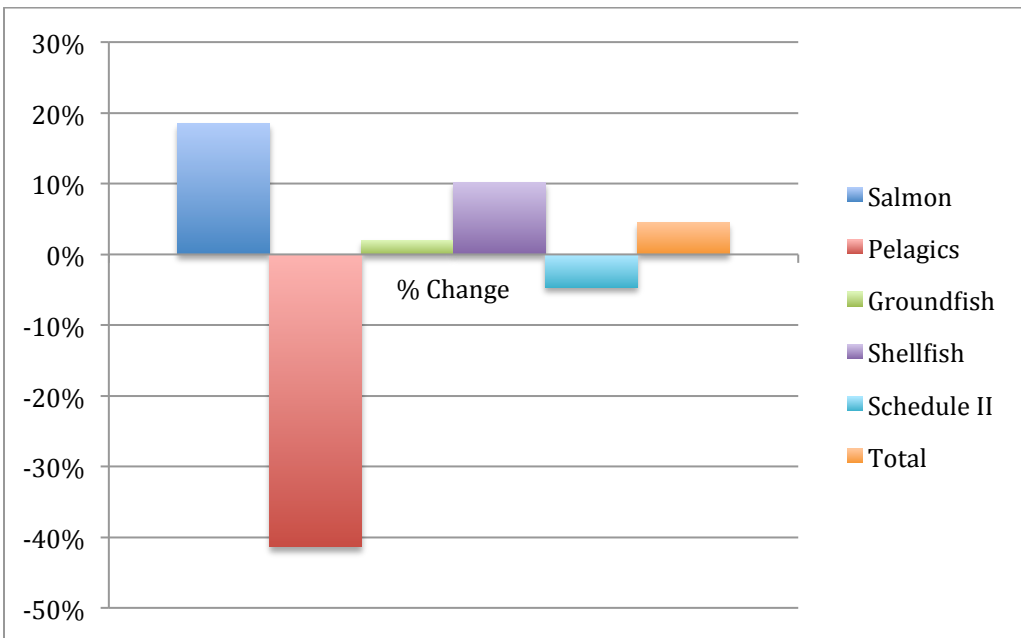
Current shares of licence and quota market value by commercial fishery group in BC are shown in the following chart:

**2015 Market Value by Fishery Grouping**



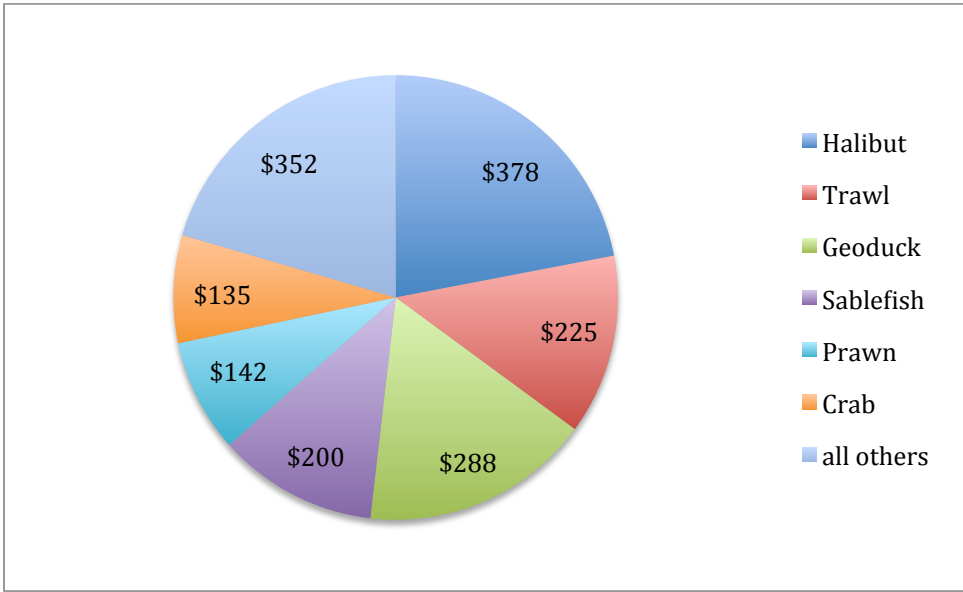
Total capitalization increased by 5% in 2015 compared 2014, with the percentage change for each fishery grouping shown in the following chart:

**Percentage Change in Market Value by Fishery Grouping – 2015 vs 2014**



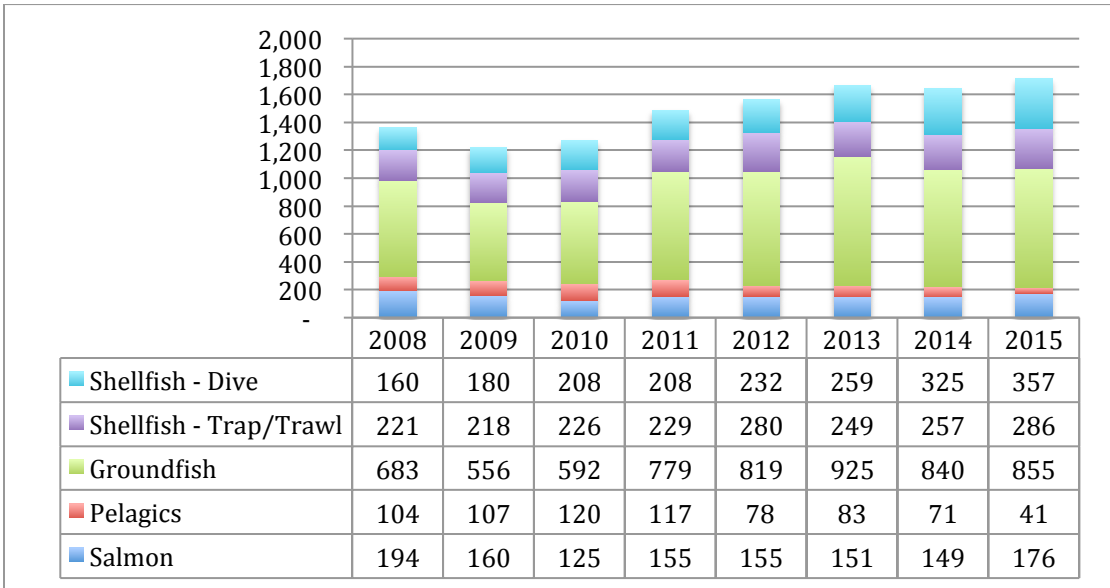
As shown in the next chart, the six fisheries with the largest aggregate licence and quota valuations account for 80% of total value, while the remaining 18 fisheries make up 20%.

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



The aggregate value trends are shown by fishery category in the next chart.

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



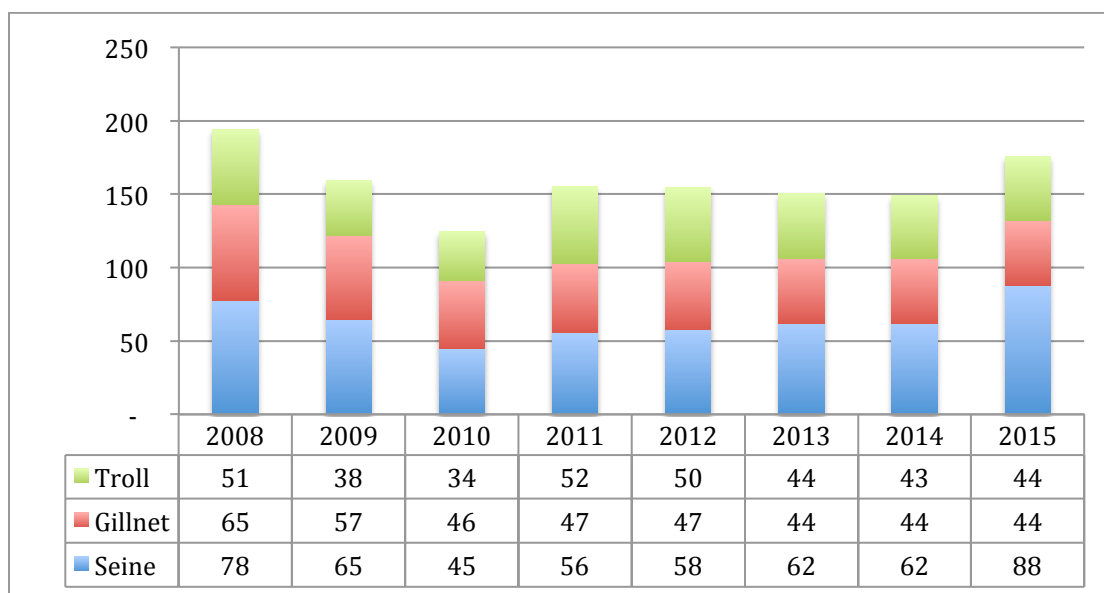
The total value of licences and quotas at March 31, 2015 is about \$1.7 billion, with measured growth since the low point of 2008. The growth seen in recent years occurred despite the decline in the pool of commercial licences and quotas caused by retirements under the PICFI program; the program relinquished more than \$125 million in access over the last six years. Growth since 2009 has been focused in the groundfish and shellfish fisheries.

Further details for key fishery groupings are provided on the next pages. In all charts, values are *un-adjusted* for inflation (nominal dollars). Valuations exclude F-category licences and quota.

## Salmon

Salmon licence values have been quite stable over the last several years, though a spike in seine licence values was seen in 2015. After the Valuation Date for this report (March 31, 2015), licence prices in all three gear types saw further upward pressure. Those increases seem attributable to the improving long term prospects rather than to current and imminent results in the salmon fishery.

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

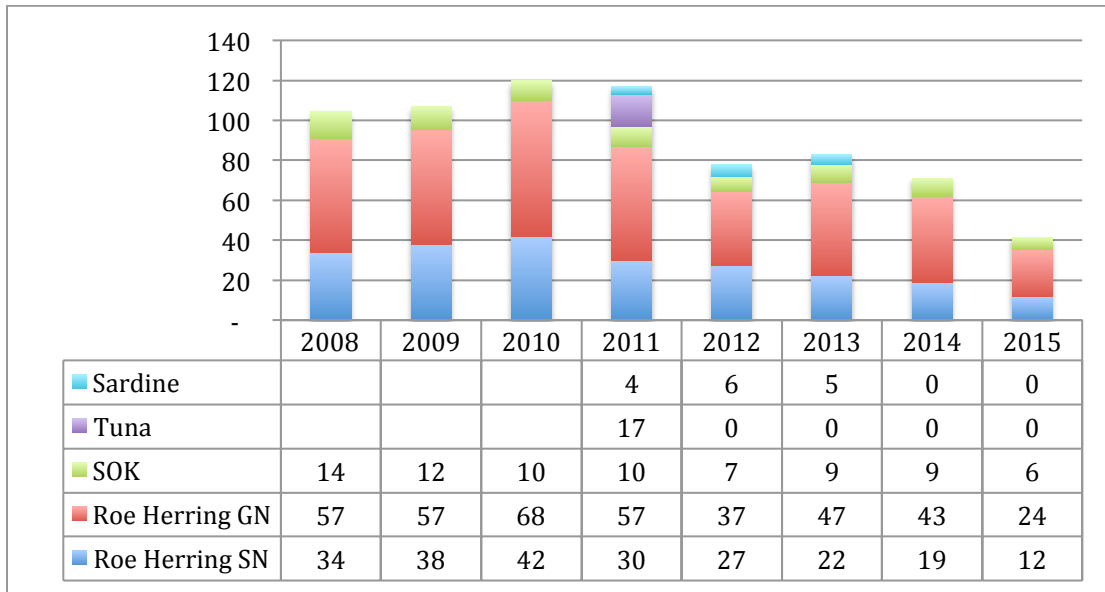


## Pelagics

The multi-year declining trend in licence values in this fishery grouping accelerated in 2015. Prices for roe herring seine and gillnet licences—already weak—eroded further. Sardines failed to show up in BC waters for the third year in a row, leaving ZS licences valueless. Lack of a Treaty between Canada and the USA, and the limited and tenuous rights associated with some of the USA 68 (tuna) licences, make the category difficult to evaluate.

The following table provides a snapshot of this grim picture (note that sardine and tuna licences were not valued until 2011).

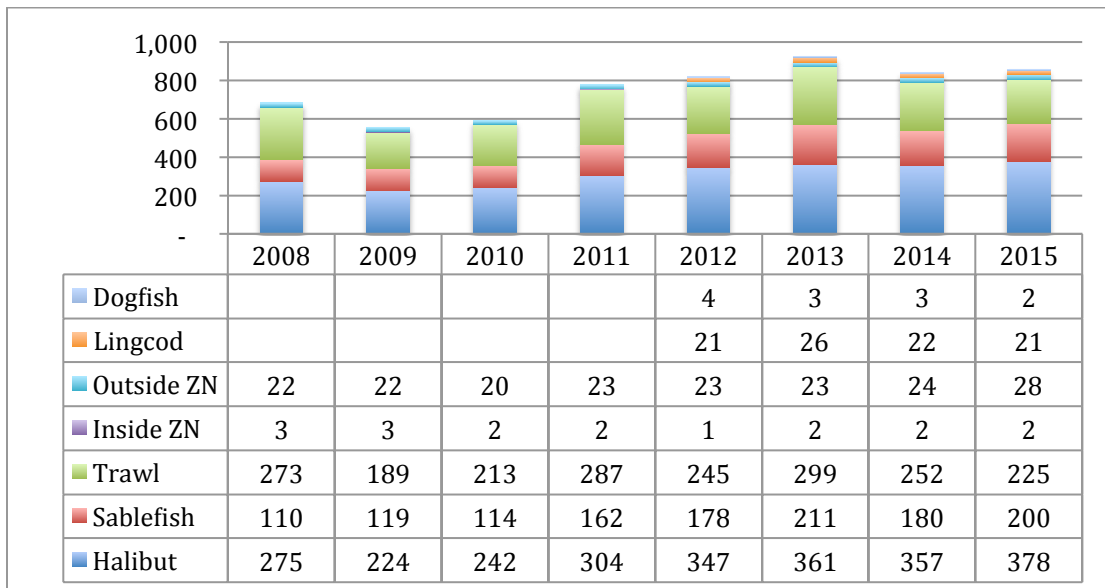
**Aggregate Pelagics Licence Value (\$ millions)**



**Groundfish**

Licence/quota values in all major groundfish categories firmed in 2015, with the exception of the hake (trawl) fishery, where elusive fish the last few years have precluded full utilization of TACs and resulted in falling IVQ prices. Halibut and sablefish quota, already at high levels, rose further during the year (and are reported to have risen even more after the valuation date).

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

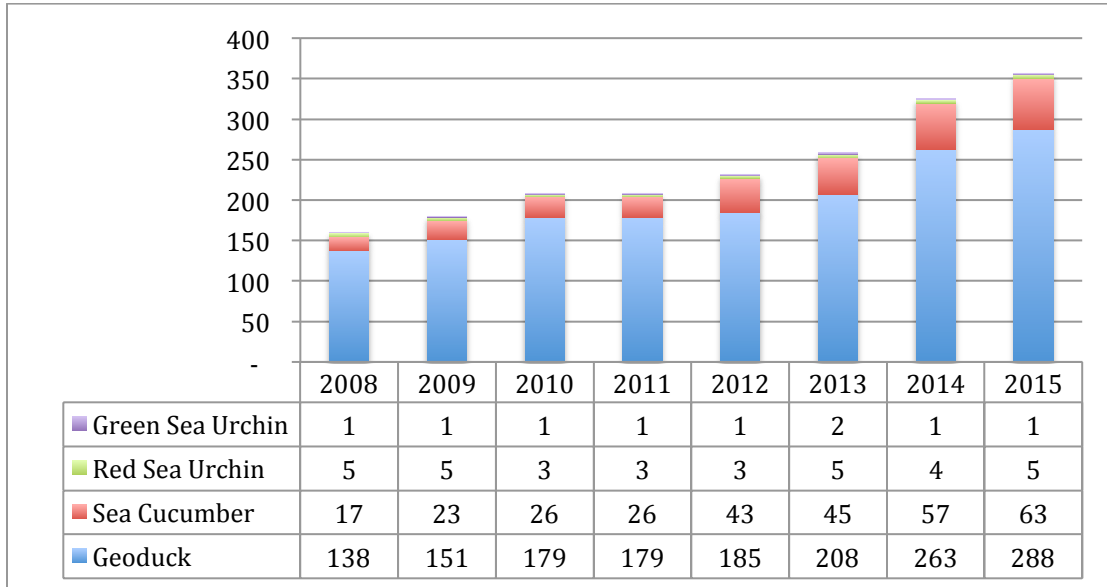




## Shellfish

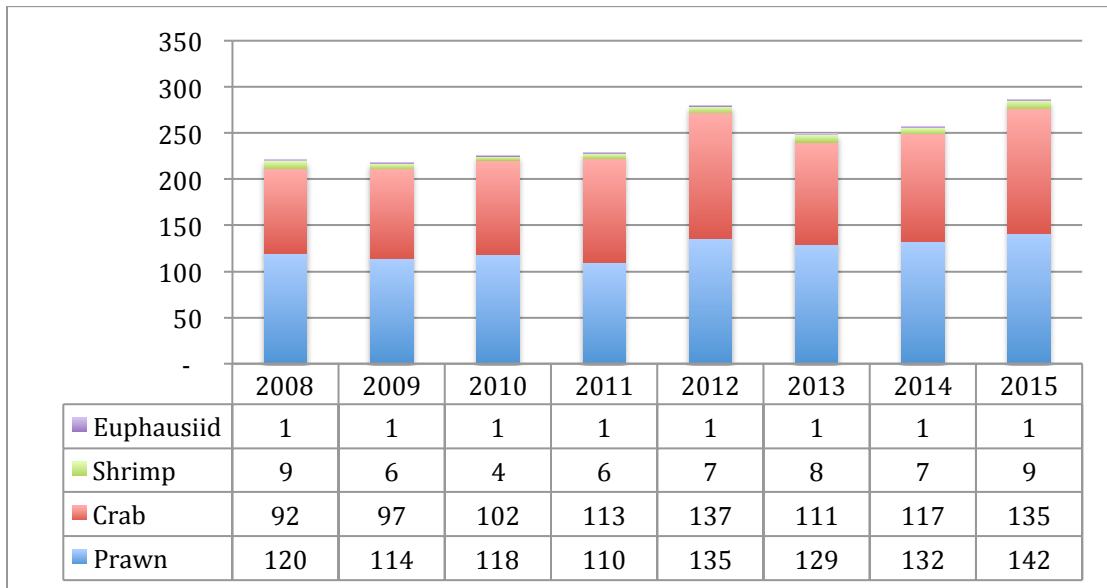
The shellfish dive fisheries showed continued growth in 2015, with gains seen in every category.

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



The shellfish trap/trawl fisheries continue to be dominated by crab and prawn. Both of these categories saw very modest increases in 2015. After the valuation date, the shrimp fishery began to see an escalation of fishing effort on the west coast of Vancouver Island, and a rapid rise in the value of larger (>50') licences that could be utilized on offshore-capable vessels. Next year's valuation report will reflect a far higher valuation for shrimp licences.

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



### Rates of Return – Leasing

The following table shows the rate of return for leasing licences or quota for the valuation period, for those fishery categories with IVQs, or licence categories (non-vessel-based) that can readily be leased:

<b>Fishery</b>	<b>Lease Rate</b>	<b>Quota/Licence Valuation</b>	<b>Rate of Return</b>
Herring - Roe Seine	\$-	\$49,025	0.0%
Herring - Roe Gillnet	\$250	\$23,734	1.1%
Sardine	\$-	\$-	0.0%
Halibut	\$6.50	\$74.00	8.8%
Sablefish	\$3.85	\$55.00	7.0%
Trawl - Groundfish	\$0.12	\$1.60	7.5%
Trawl - Offshore Hake	\$0.003	\$0.30	0.8%
Rockfish Inside	1,750	\$35,000	5.0%
Rockfish Outside	7,500	\$175,000	4.3%
Lingcod Hook & Line	\$0.30	\$8.00	3.8%
Dogfish Hook & Line	\$-	\$0.08	0.0%
Prawn	\$50,000	\$734,000	6.8%
Geoduck	\$500,000	\$5,750,000	8.7%
Sea Cucumber	\$65,000	\$750,000	8.7%
Red Sea Urchin	\$3,000	\$60,000	5.0%
Green Sea Urchin	\$1,500	\$30,000	5.0%

Some vessel-based fisheries feature licence leasing for F-category licences; anecdotal information on these lease arrangements is provided in the body of the report.

## Methodology

### Valuations Performed

The following table shows the scope of work carried out in this report:

Fishery Grouping	Fishery	Gear	Valuation				
			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			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			

Note that partial valuations for the tuna, sardine, lingcod, and dogfish categories are being included in this year's report.

### Valuation Methodology

In order to efficiently and most-accurately assess licence and vessel values, stratification was used where appropriate. Stratification is a statistical technique in which licences or vessels being valued are divided into groups having similar characteristics. An average value is then determined for each group (rather than for the data as a whole).

**Licence/Quota Stratification & Valuation Criteria**

Licence stratification is generally quite simple, as each licence within a fishery tends to have similar characteristics. Exceptions are fisheries such as salmon and roe herring, where Full-fee and Reduced-fee licence distinctions bring different values. For fisheries where quotas are separable from licences, quota valuations are provided per pound of quota.

The units in which licence/quota values are expressed (eg, value per licence, per foot, per pound of quota) are noted for each fishery.

**Vessel Stratification**

The vessel valuation approach used in this report is described as follows:

*Note: no new vessel valuation information was applied this year; results reported are the same as last year.*

1. The number of licensed vessels in each commercial category is identified (source: Commercial Licence Eligibility Counts report).

2. Vessels are apportioned between “classic” and “modern” styles.

Classic vessels are of older design (typically pre-1980s), meaning they may have less beam, power, sophisticated fishing gear, refrigeration, fish-packing capacity, and creature comforts than a modern vessel. Wood is the predominant construction material, though some are built of materials like steel, fibreglass, and aluminium.

Modern vessels are typically built of materials other than wood, with progressive design and enhanced capabilities, such as those mentioned above (speed, power, refrigeration, capacity, etc). A surge in vessel construction occurred through the 1980s in the salmon and roe herring fleets. Prosperity in the crab, prawn, and dive fleets resulted in considerable new vessel construction through the early-mid 2000s.

3. A range of values—low and high—is pegged for both classic and modern vessels.
4. A calculation is provided, showing the estimated make-up and valuation of vessels in the fishery, for both individual vessels, and the fleet in aggregate. The following sample table is populated for each fishery:

Fishery	# Vessels	Avg Vessel Value	Aggregate Value
Classic Style			
Modern Style			
Total/Average			

*Note: For some fisheries, the number of vessels enumerated does not correspond to the number of licences indicated for the fishery. This discrepancy is sometimes due to licence stacking permitted in a fishery. It may also be due to the fact that some licences were not renewed or assigned to vessels at the March 31, 2015 valuation date. The number of vessels evaluated for each fishery is derived from commercial licensing data provided for this study.*

### *Vessel Stratification Intent*

The vessel stratification approach used in this study reflects the absence of a current database on commercial vessel attributes (eg, year built and construction material). The intent of the current methodology is to provide a few values—for individual vessels and the fleet in aggregate—for readers interested in assessing the approximate value of boats in a particular fishery.

### Information Collection

The methodology for valuing licences, quotas, and vessels employed in this report is the same as used in previous years. Asset valuations are based upon a variety of information, including:

- First-hand reports of specific transactions (best data source).
- Anecdotal reports of general price levels or trends (expert opinion).
- Consideration of vessel and licence listings (eg, brokerage information).
- Consideration of prevailing industry fundamentals (fishery landings, landed prices, market situation, etc).
- Application of the contractor’s judgment.

The key source of information on transaction price levels was interviews with industry participants, including fishermen, processing representatives, vessel / licence brokers, lawyers, and others close to a particular fishery.

### Valuation Criteria

Each valuation furnished in the report represents a synthesis of the best information obtained from industry on transaction levels, and application of the contractor’s judgement in determining a going rate for licences and quota. Pegging a going rate often requires a high degree of judgement. For fisheries with a reasonable volume of trading activities, valuations are an attempt to encapsulate weighted average prices at the valuation date. For fisheries with little or no trading activity, valuations are merely estimates based upon anecdotal information, current fishery trends, and past price levels. The confidence level accompanying each valuation is linked to the depth and quality of information unearthed.

### Valuation Trends

For each fishery, valuation trend graphs, including the current valuation along with those in the preceding few years, are presented. Values in these graphs are in nominal terms (ie, not adjusted for inflation).

### Licensing Information

For each fishery evaluated in this report, a brief synopsis of the licensing system is provided in table format. Readers may require further information, which may be found in Integrated Fisheries Management Plans, or the Pacific Licensing web page (links provided below).

- IFMP’s: <http://www.pac.dfo-mpo.gc.ca/fm-gp/ifmp-eng.htm>
- DFO Licensing: <http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/index-eng.htm>

## SALMON: Salmon Seine

### Background to Valuation

General	
Licence Designation	AS
Nature of Licence	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	
Licence	Per licence
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	Med
# Transactions underlying valuation	≈10
Confidence in current year valuations	Med

### Current Valuation

#### Licence Value at March 31, 2015

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
Full Fee	195	420,000	81,900,000
Reduced Fee	15	400,000	6,000,000
All AS	210	418,571	87,900,000

#### Valuation Comments

Valuation range for period: \$375,000-\$450,000 (full fee).

The gap in value for full fee vs reduced fee licences seems to be narrowing.

Reasonably active licence market this year.

Market values rising after valuation date.

F category licences lease under a variety of arrangements, including 15% of gross and 30% of boat share.

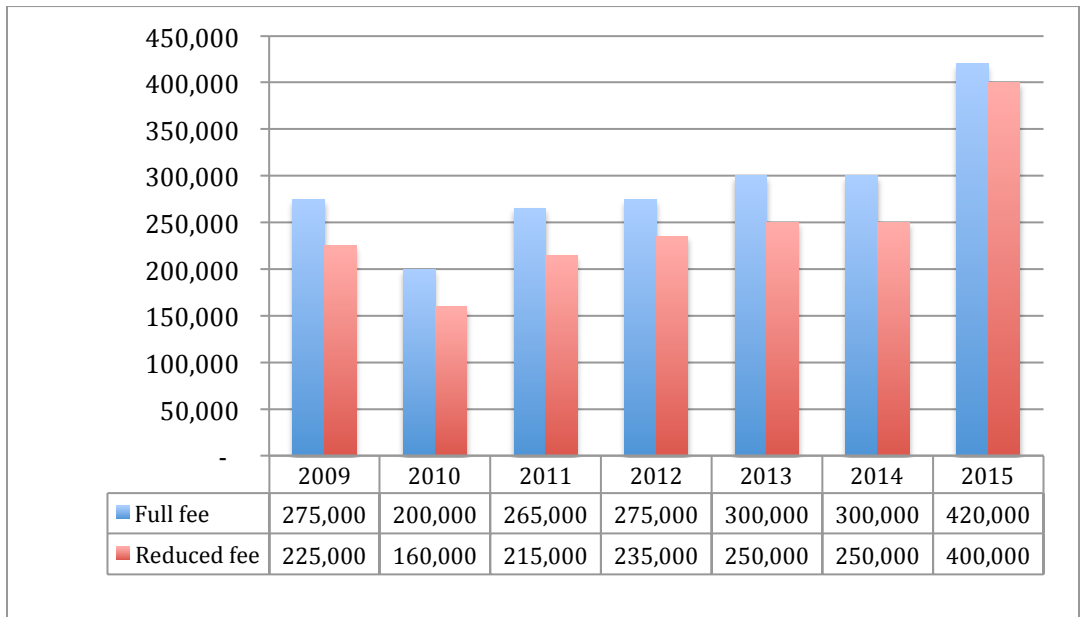
**Vessel Value**

Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only. The number of licensed vessels is drawn from current DFO data, which may not be precise.

Salmon Seine	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	58	184,000	10,672,000
Modern Style	88	646,000	56,848,000
Total	146	462,466	67,520,000

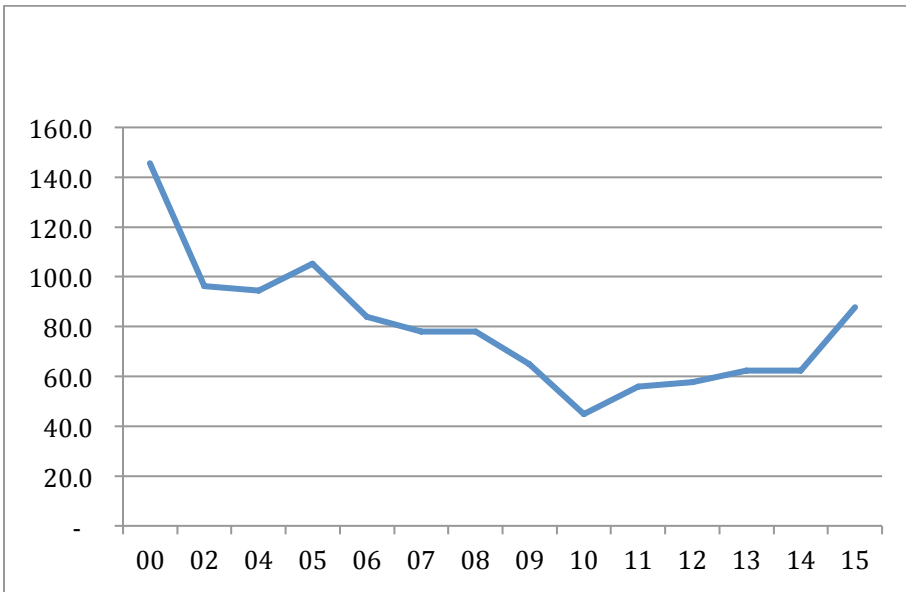
**Licensing Trends**

Recent AS Licence Valuations (Nominal \$s – Not Adjusted for Inflation)



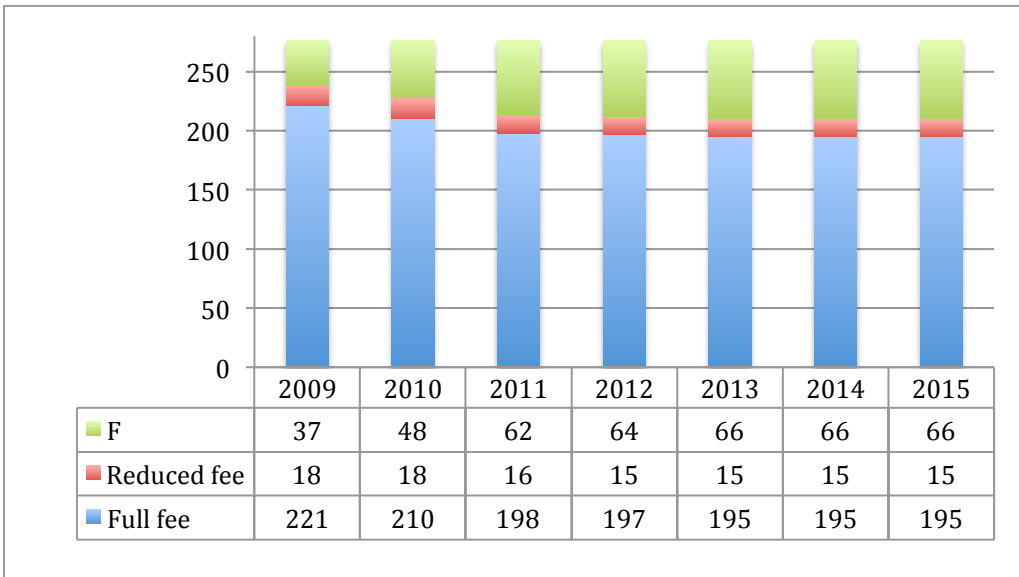
The significant jump in licence values in the current year does not reflect particularly lucrative fishing during the period, but rather seems based on speculation about the future profitability of the fishery. Experience in the 2015 fishery, and expectations for 2016, do not explain the escalation in values.

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



The salmon seine fishery is currently experiencing a period of relative stability (and modest growth), after a steep descent in preceding years.

AS Licence Counts by Category

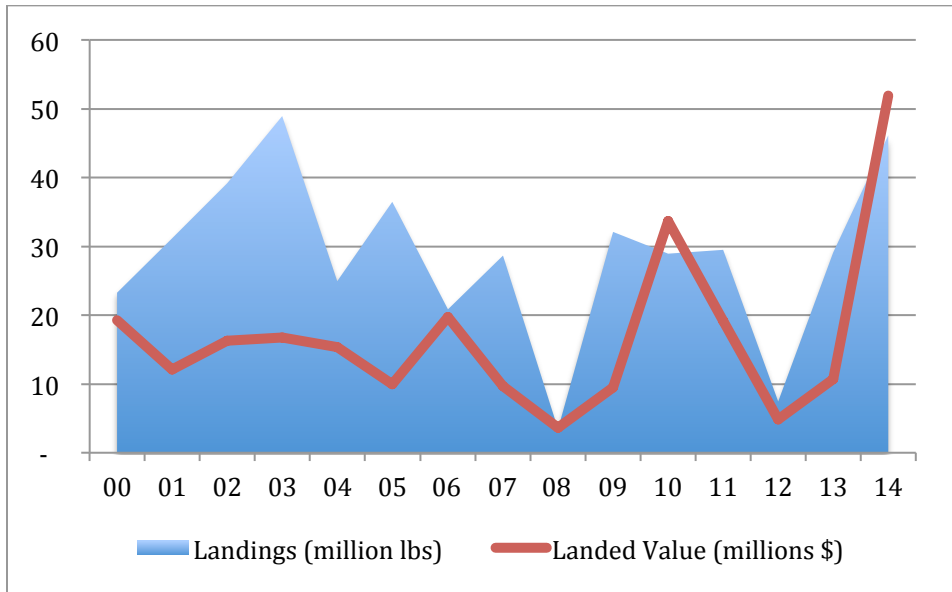


There have been no PICFI or ATP retirements in the last two years.



## Salmon Seine Landings & Landed Value Trend

Source: DFO Catch Stats



### Outlook/Commentary

The outlook for the seine sector is somewhat positive, given:

- Significant increase in fresh sales, enabled by pilot quota fisheries for sockeye and pink salmon. Instead of large gluts of landings, the landings are spread out over a larger number of fishing days, allowing improved planning and handling.
- General improvement in pink and chum markets.
- Sentiment that pilot quota systems will continue, at least year-to-year.
- Healthy catches per vessel, given reduced seine fleets (with fleet reduction having been accomplished through fleet rationalization measures in the 1990s and early 2000s).

This brighter longer-term outlook prevails despite lower catches in 2015 and similarly lean expectations for 2016.

## SALMON: Salmon Gillnet

### Background to Valuation

General	
Licence Designation	AG
Nature of Licence	Vessel-based
# Commercial Licences	1072
# Communal Commercial Licences	330
Area licensing?	3 areas
Stacking?	yes
Competitive or Quota fishery?	Competitive with pilot IVQ

Valuation Parameters	
Licence	per licence
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	Low-Med
# Transactions underlying valuation	≈10
Confidence in current year valuations	Med

### Current Valuation

#### Licence Value at March 31, 2015

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
Full Fee	706	55,000	38,830,000
Reduced Fee	112	50,000	5,600,000
All AG	818	54,315	44,430,000

#### Valuation Comments

Valuation range for period: \$50,000-\$65,000 (full fee).

No reduced fee licences uncovered so valuation is an estimate.

F category licences lease under a variety of arrangements: some licences are leased out at a flat fee between \$1,500 and \$3,000; others are based on 10% of gross (or similar sharing arrangement). Some Bands or indigenous fishing companies make gillnet salmon licences available to community members at virtually no cost.

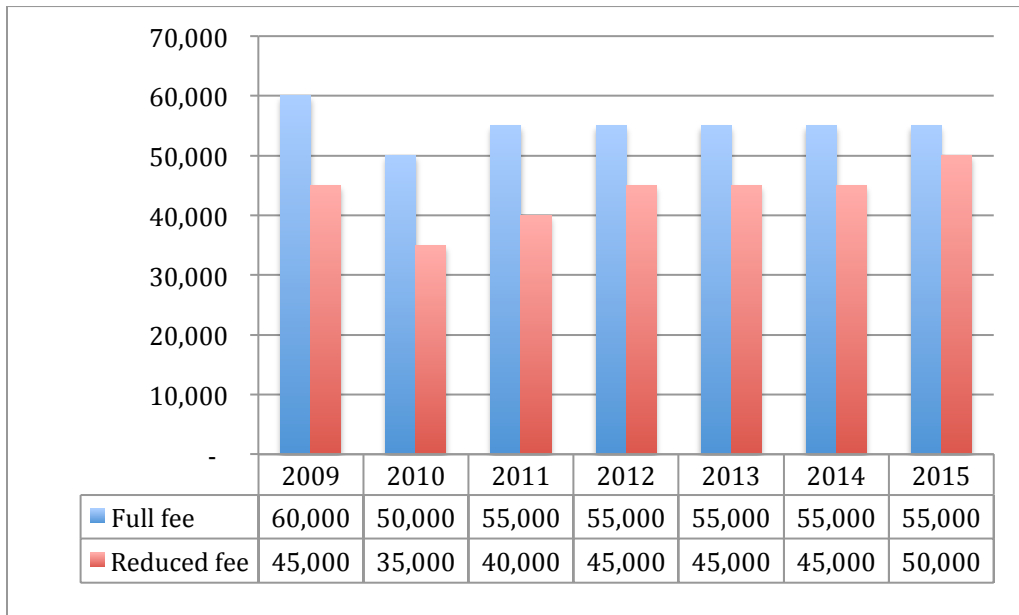
### Vessel Value

Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only. The number of licensed vessels is drawn from current DFO data, which may not be precise.

Salmon Gillnet	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	451	73,000	32,937,600
Modern Style	301	162,000	48,729,600
<i>Total</i>	752	108,600	81,667,200

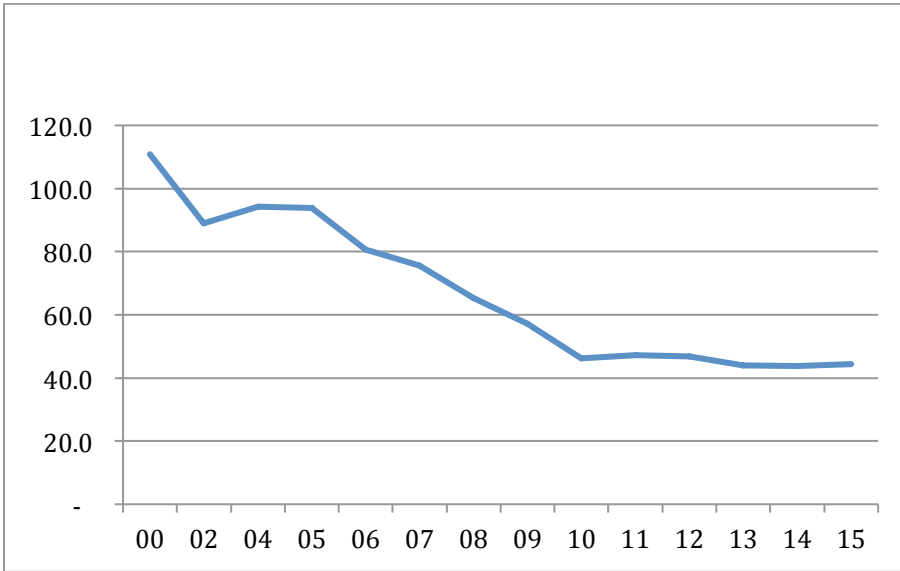
### Licensing Trends

#### Recent AG Licence Valuations (Nominal \$s – Not Adjusted for Inflation)

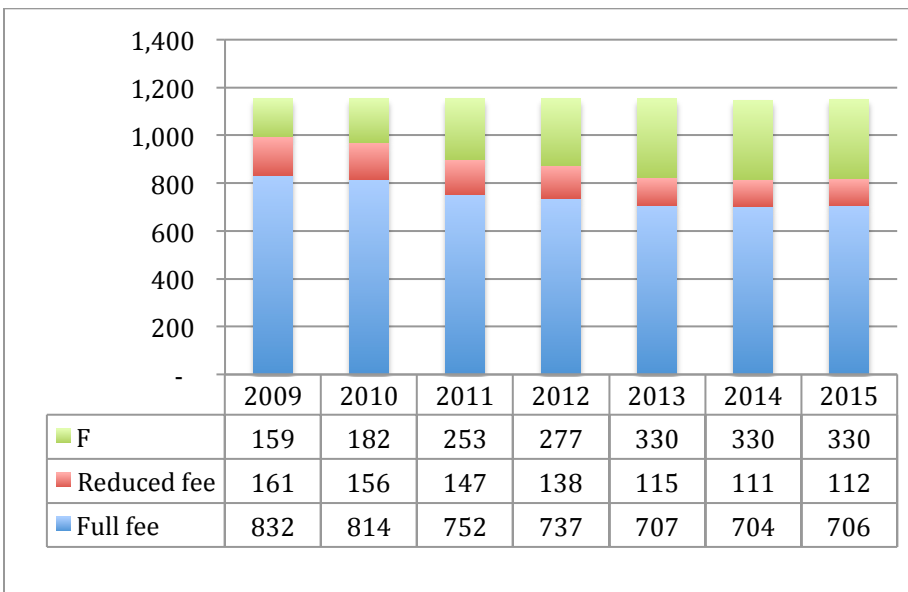


Gillnet salmon licence prices have been very stable in recent years.

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



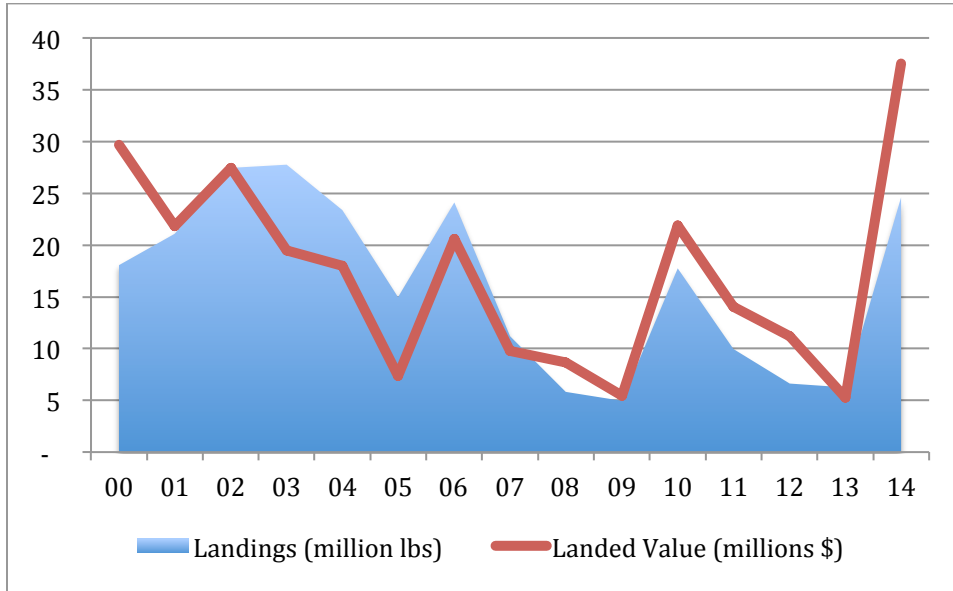
AG Licence Counts by Category



The above table excludes 254 Northern Native Fishing Corporation (NNFC) licences (NAG designation).

## Gillnet Salmon Landings & Landed Value Trends

Source: DFO Catch Stats



### Outlook/Commentary

No new information; the following excerpts from last year's report apply:

“Unlike seine fisheries, however, the gillnet fleet is challenged to harvest its allocation in years like 2014. This results in forgone fishing opportunities.”

“Gillnet fisheries are managed in the traditional derby style; therefore, they lack a mechanism for transferring surplus allocations to other gear-types.”

## SALMON: Salmon Troll

### Background to Valuation

General	
Licence Designation	AT
Nature of Licence	Vessel-based
# Commercial Licences	350
# Communal Commercial Licences	84
Area licensing?	3 areas
Stacking?	yes
Competitive or Quota fishery?	Competitive with pilot IVQ

Valuation Parameters	
Licence	per licence
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	Low-Med
# Transactions underlying valuation	≈10
Confidence in current year valuations	Med

### Current Valuation

#### Licence Value at March 31, 2015

Category	# Licences	Value/Licence (\$)	Total Value (\$)
Full Fee	340	125,000	42,500,000
Reduced Fee	10	115,000	1,150,000
All AT	350	124,714	43,650,000

#### Valuation Comments

Values ranged from \$120,000 to \$150,000. No transactions in the reduced fee category were found.

Upward pressure in licence prices is deemed to be related to lack of supply, not improvement in fishery fundamentals.

The Voluntary Salmon Troll Licence Retirement Program (often referred to as the “Mitigation Fund”) was virtually inactive during the valuation period.

F category (party-based) licences lease from time to time. Chinook quota leases in Area F ranged from \$5.00 to \$10.00 per fish.

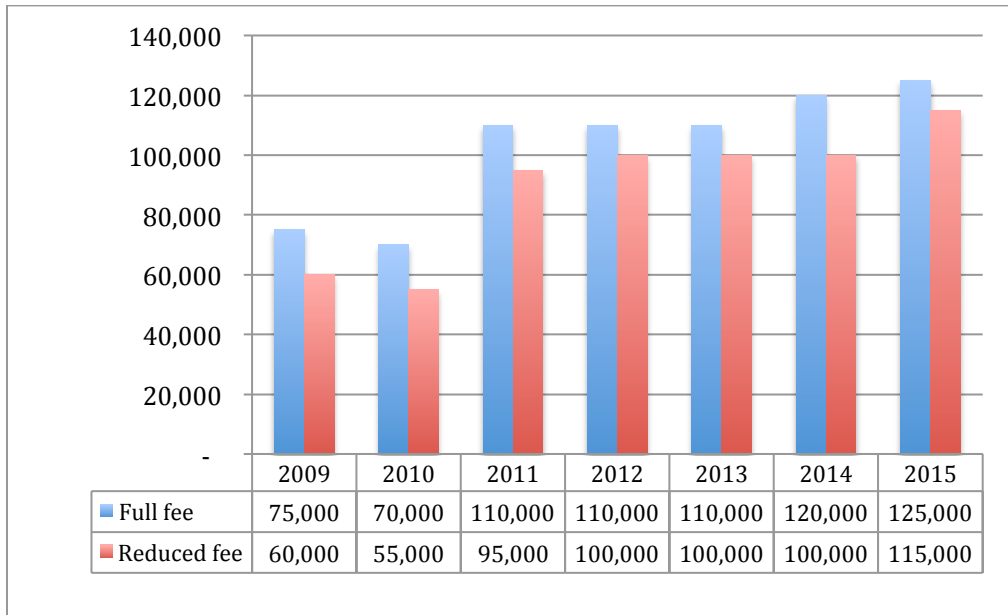
### Vessel Value

Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only. The number of licensed vessels is drawn from current DFO data, which may not be precise.

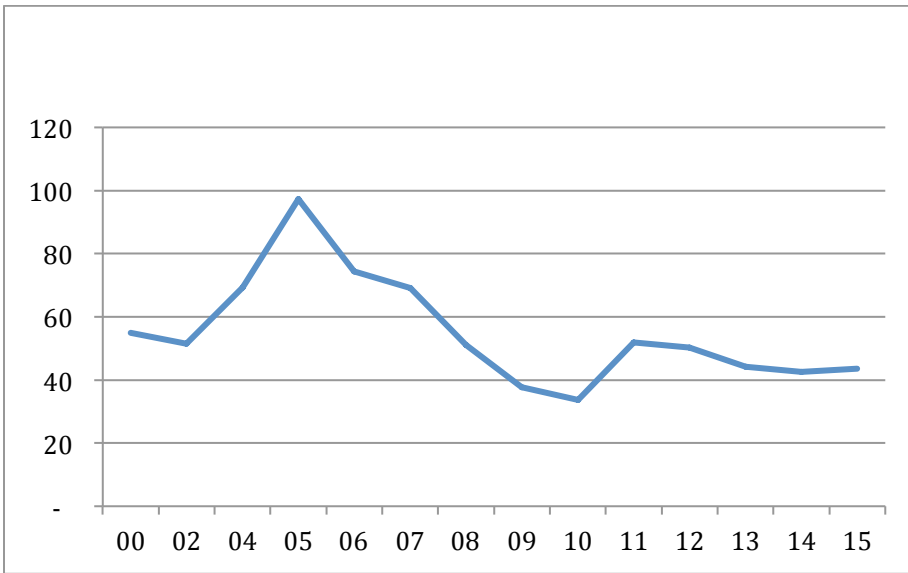
Salmon Troll	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	232	136,000	31,552,000
Modern Style	99	262,000	25,938,000
<i>Total</i>	331	173,686	57,490,000

### Licensing Trends

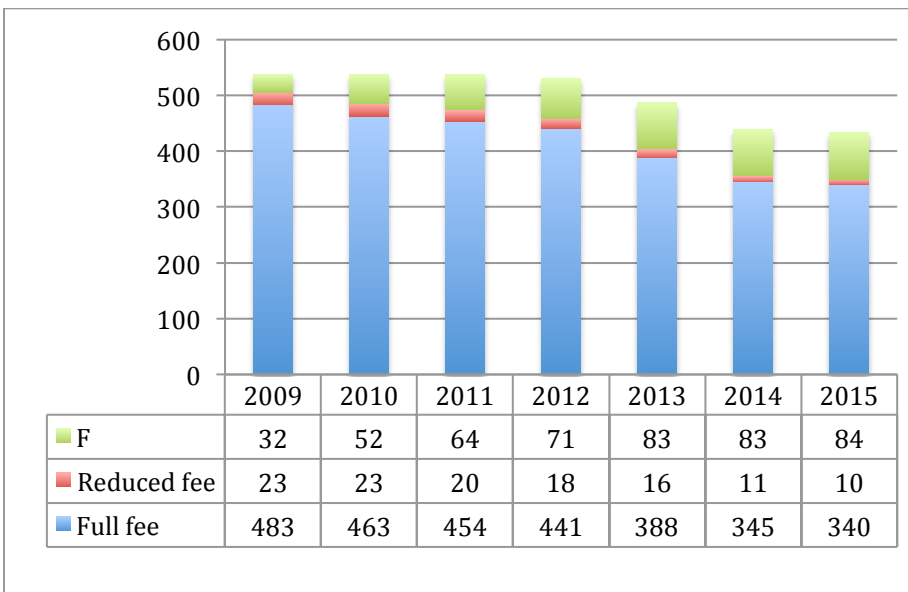
Recent AT Licence Valuations (*Nominal \$s – Not Adjusted for Inflation*)



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



AT Licence Counts by Category

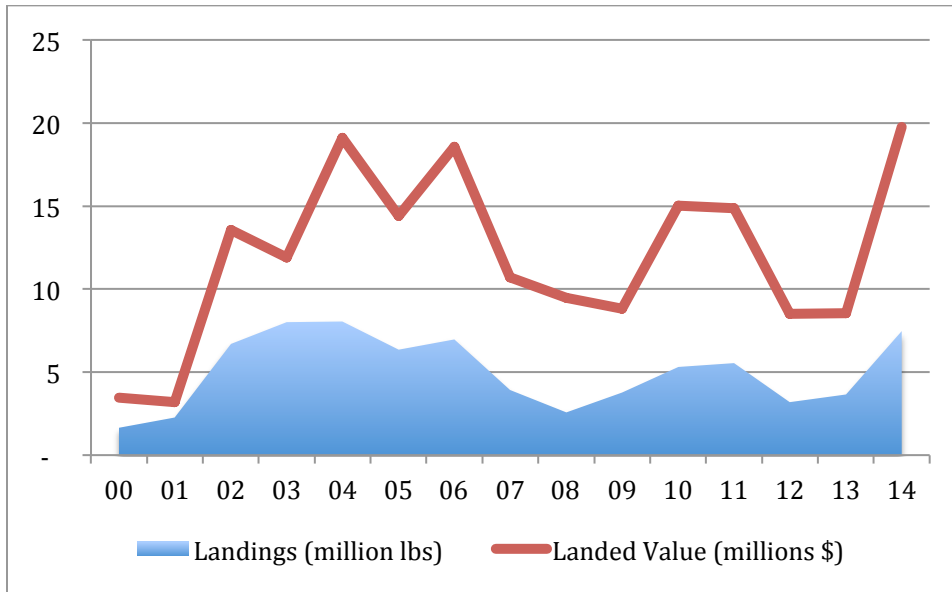


The total number of AT licences is declining in recent years due to retirements by the Pacific Salmon Commission Voluntary Commercial Troll Licence Retirement Program.



### Troll Salmon Landings & Landed Value Trends

Source: DFO Catch Stats



### Outlook/Commentary

The troll salmon fishery has remained the most stable of the three salmon gear types, not having seen a discernable upward or downward trend in recent years.

## 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 fishery?	pools (equal sharing)

Valuation Parameters	
Licence	per licence
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	Low
# Transactions underlying valuation	≈5
Confidence in current year valuations	Low-Med

### Current Valuation

#### Licence Value at March 31, 2015

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

Transactions ranged from \$40,000-\$60,000.

Values have continued a downward trend, as earnings in the fishery have been poor for several years, and prospects are similarly gloomy.

Lease values were nil in the roe herring fishery, though use of licences in the food & bait fishery yielded \$1,000-\$2,000.

F-category licences may lease for about \$2,000, or half the amount of the DFO licence fees for a full fee licence.

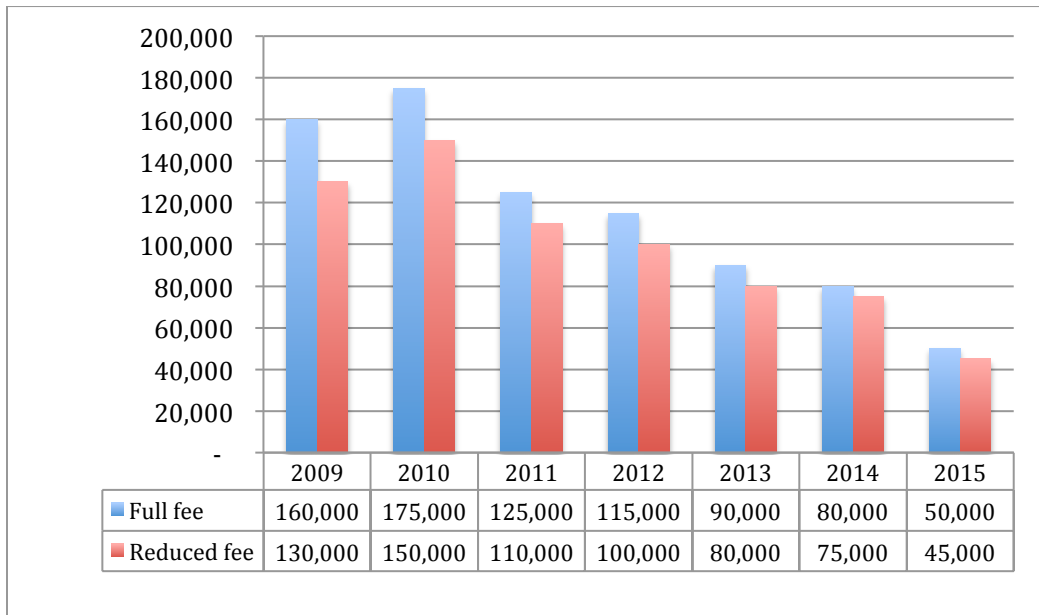
### Vessel Value

Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only. The number of licensed vessels is drawn from current DFO data (may not be precise).

Herring Seine	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	35	175,000	6,125,000
Modern Style	105	733,000	76,965,000
<i>Total</i>	140	593,500	83,090,000

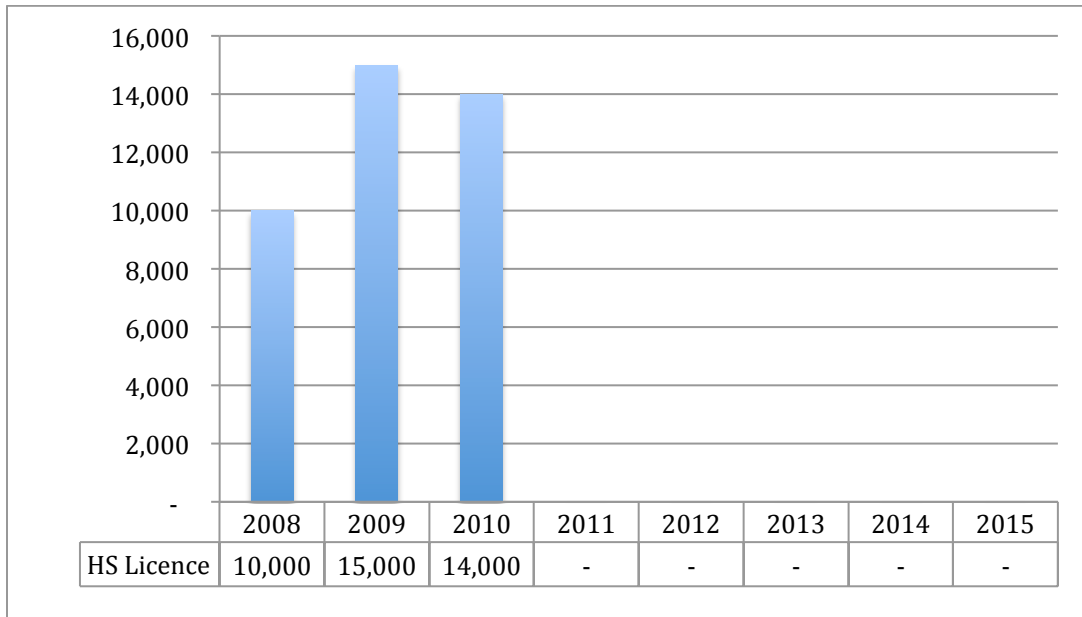
### Licensing Trends

Recent HS Licence Valuations (*Nominal \$s – Not Adjusted for Inflation*)



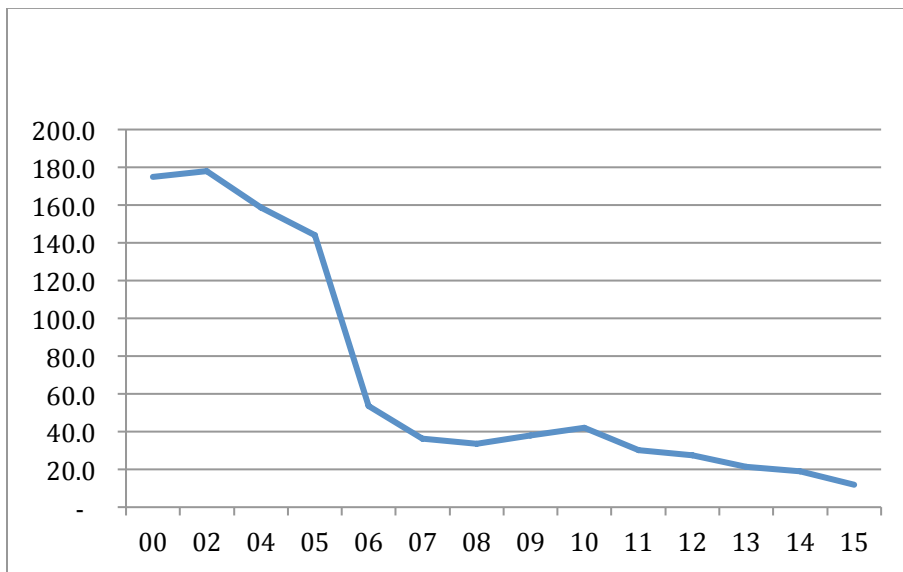
A steady erosion in licence value continues. The decline since the early 2000s is particularly startling—the valuation for a full fee licence was \$725,000 as recently as 2002.

Recent HS Licence Lease Rates (\$)

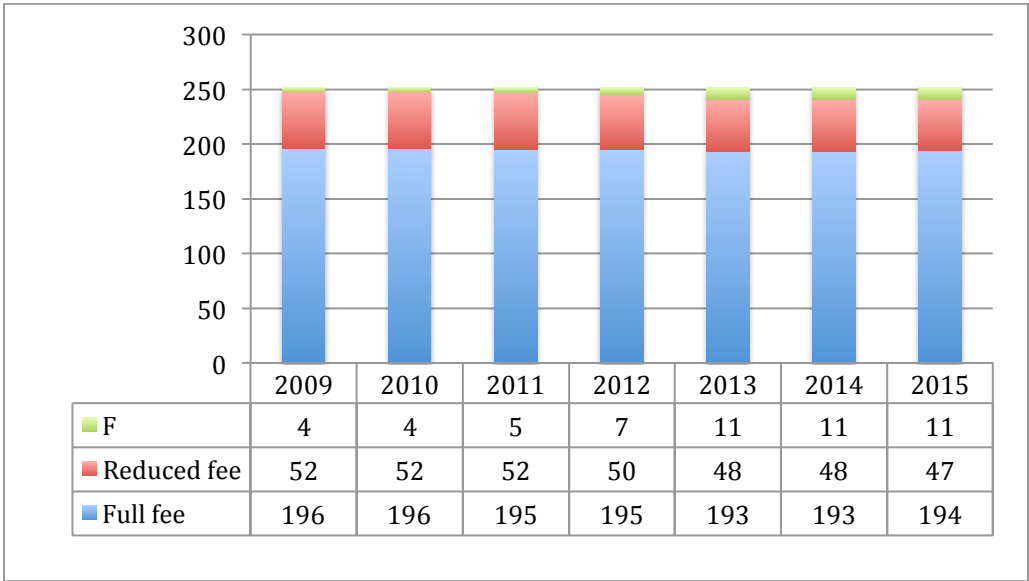


HS licences have had virtually no lease value for the past four seasons. Lessors typically pay only the DFO licence fees, but many licences remain unutilized.

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

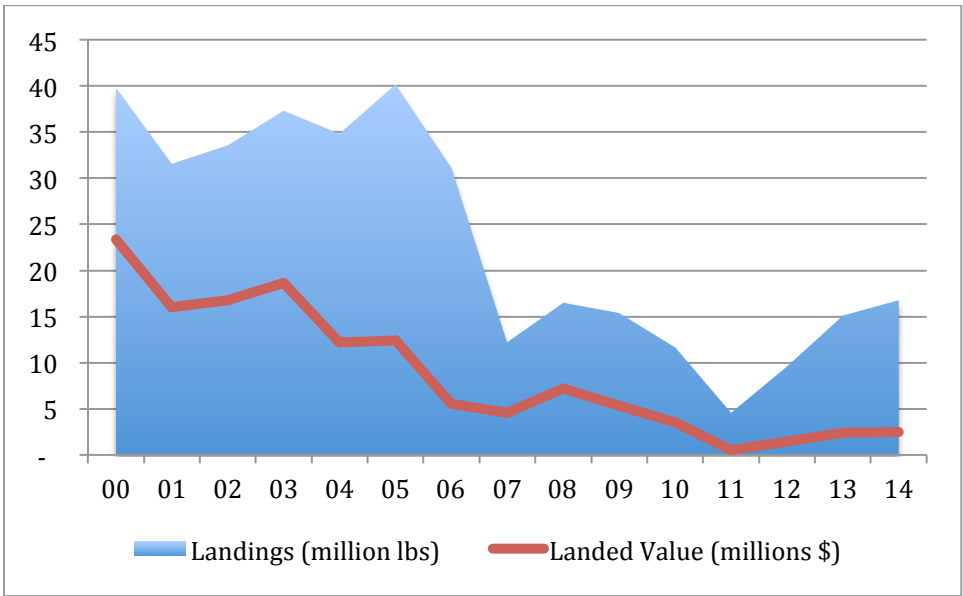


HS Licence Counts by Category



Seine Roe Herring Landings & Landed Value Trends

Source: DFO Catch Stats



## Outlook

Despite positive signs on the resource side (rebounding stocks in some herring management areas), a weak Japanese market precludes profitable operations.

There is little optimism that the fishery will return to the lucrative status enjoyed in the past. Some participants predict that the future for herring fisheries lies in food and bait markets, though significant industry re-organization needs to occur to facilitate this.

Licence holders lament what they see as prohibitive renewal fees for HS licences relative to earnings potential.

## PELAGICS: Roe Herring Gillnet

### Background to Valuation

General	
Licence Designation	HG
Nature of Licence	Party-based
# Commercial Licences	999
# Communal Commercial Licences	268
Area licensing?	5 areas
Stacking?	yes
Competitive or Quota fishery?	pools (equal sharing)

Valuation Parameters	
Licence	Per licence
Quota	n/a
Vessels	n/a
Amount of trading activity in category this year	Med
# Transactions underlying valuation	≈20
Confidence in current year valuations	Med-High

### Current Valuation

#### Licence Value at March 31, 2015

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
Full Fee	746	25,000	18,650,000
Reduced Fee	253	20,000	5,060,000
All HG	999	23,734	23,710,000

#### Valuation Comments

Values range from \$20,000 to \$30,000, with the majority of sales at \$25,000.

Current asking prices are higher than \$25,000 but little activity is occurring in the market.

The going-rate for leases was \$250, with some as high as \$500.

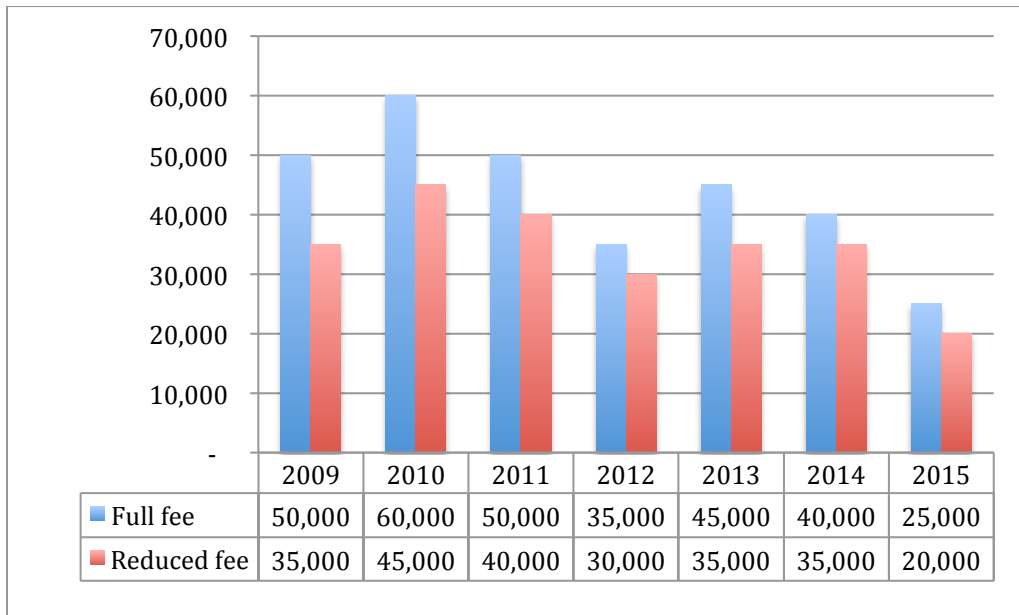
### Vessel Value

Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only. The following vessel counts are estimates only, as the actual number of licensed vessels is not tracked by DFO.

Herring Gillnet	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	90	38,000	3,420,000
Modern Style	210	132,000	27,720,000
<i>Total</i>	300	103,800	31,140,000

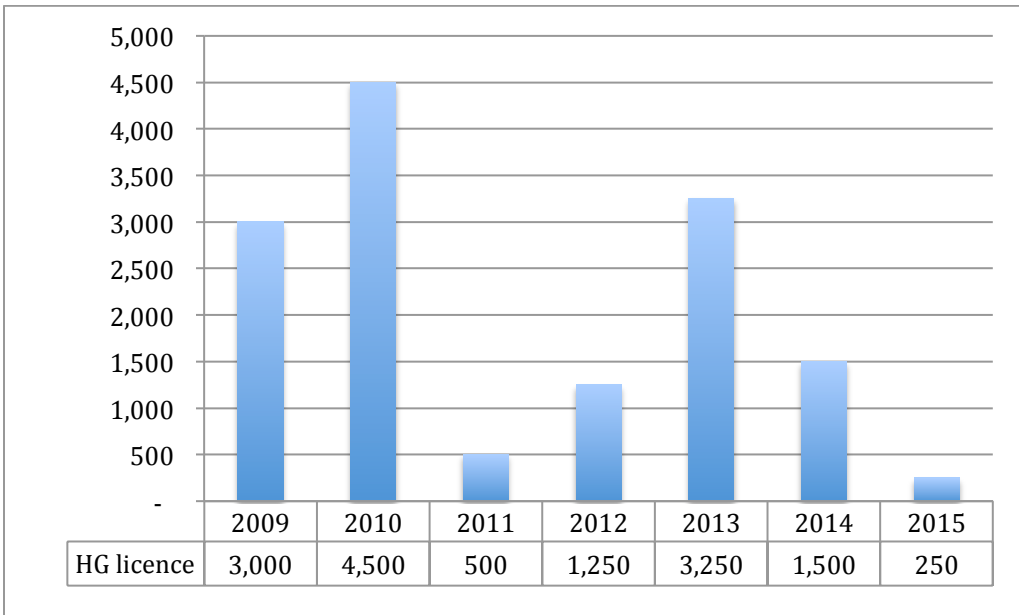
### Licensing Trends

Recent HG Licence Valuations (*Nominal \$s – Not Adjusted for Inflation*)



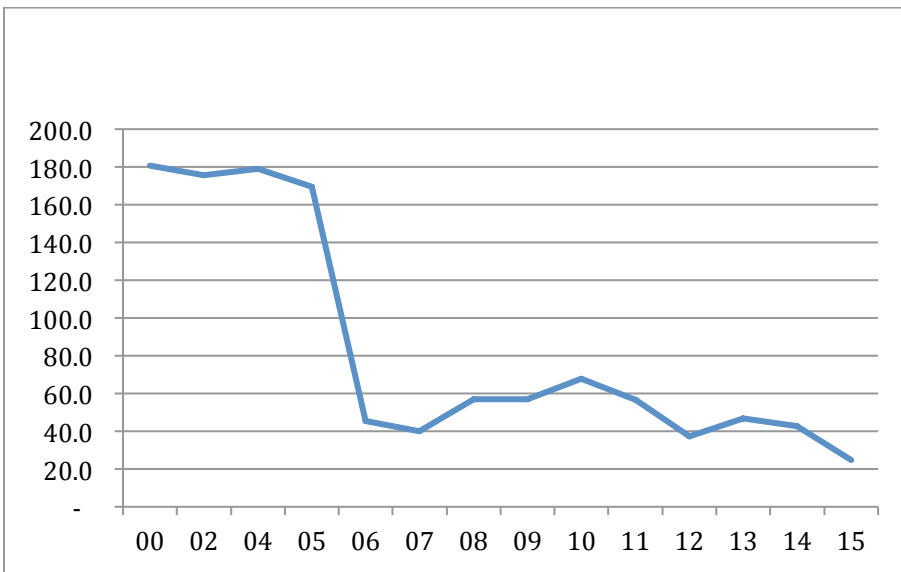


Recent HG Licence Lease Rates (\$)



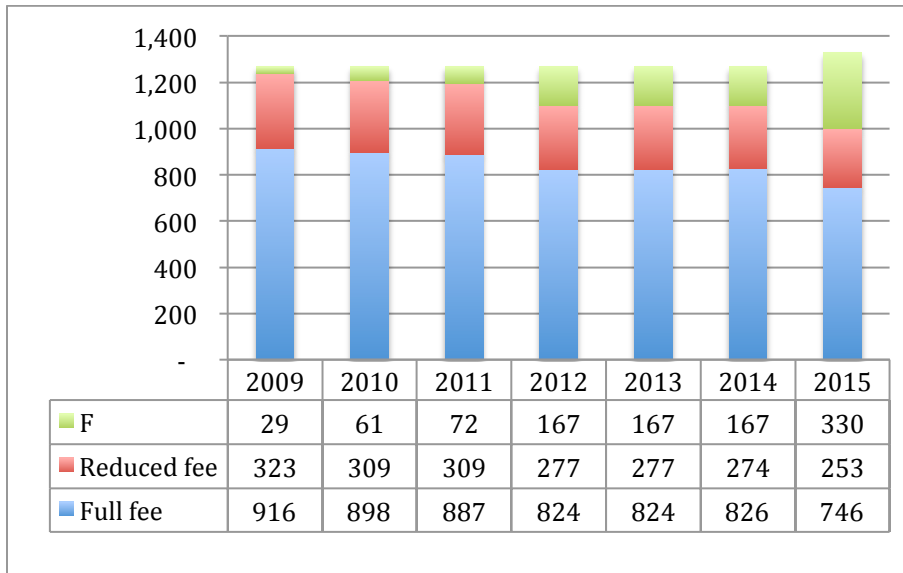
Leasing activity now occurs at far lower levels than seen in the past (the lease rate was \$15,000 as recently as 2004).

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



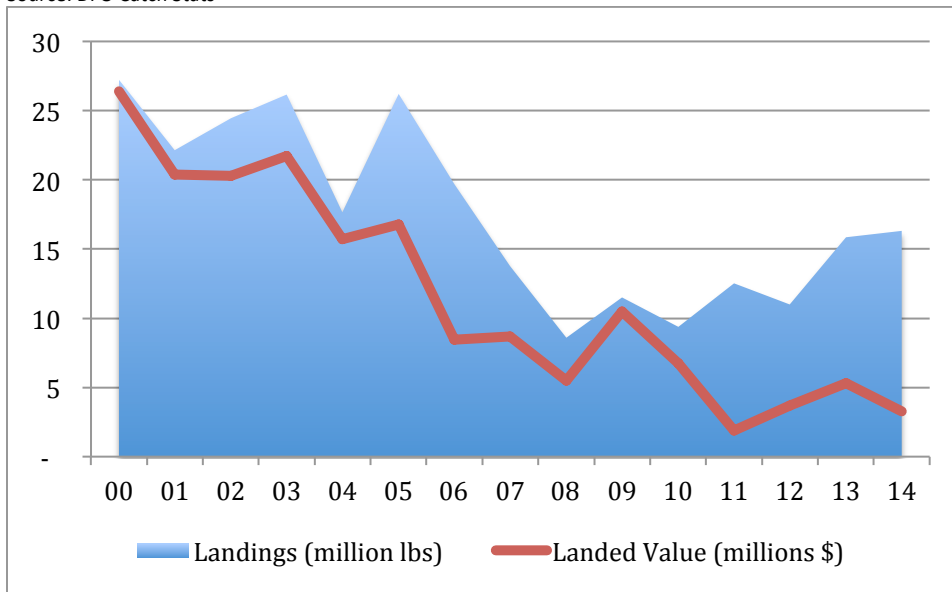
The aggregate value of HG licenses is a fraction of former values, driven by soft market demand in Japan for BC roe.

Licence Counts by Category



Gillnet Roe Herring Landings & Landed Value Trends

Source: DFO Catch Stats



Outlook/Commentary

Gillnetters fared poorly again in the 2015 fishery.

There is little optimism that the fishery will return to the lucrative status enjoyed in the past.

## PELAGICS: Herring Spawn on Kelp

### Background to Valuation

General	
Licence Designation	J
Nature of Licence	Party-based
# Commercial Licences	34
# Communal Commercial Licences	12
Area licensing?	5 areas
Stacking?	no
Competitive or Quota fishery?	quota

Valuation Parameters	
Licence	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 March 31, 2015

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

#### Valuation Comments

Anecdotal information underlies the current year valuation; information suggests that the value used for the last few years (\$250,000) is not supported by the market.

This is a very illiquid licence category.

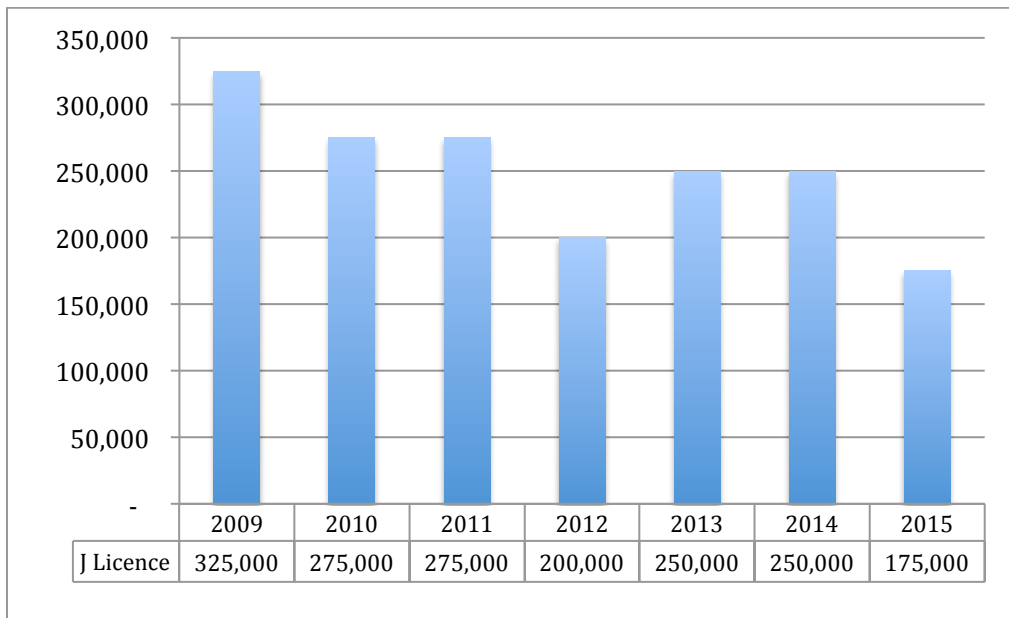
Lease arrangements tend to be based on revenue sharing.

#### Vessel Value

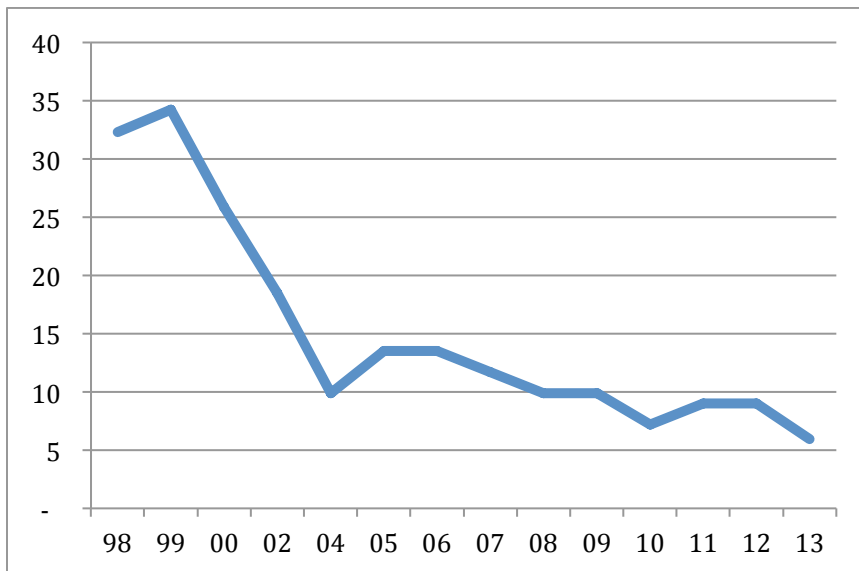
Not valued. There is no single vessel type associated with the spawn on kelp fishery, nor are licences assigned to a vessel.

## Licensing Trends

### Recent J Licence Valuations (Nominal \$s – Not Adjusted for Inflation)

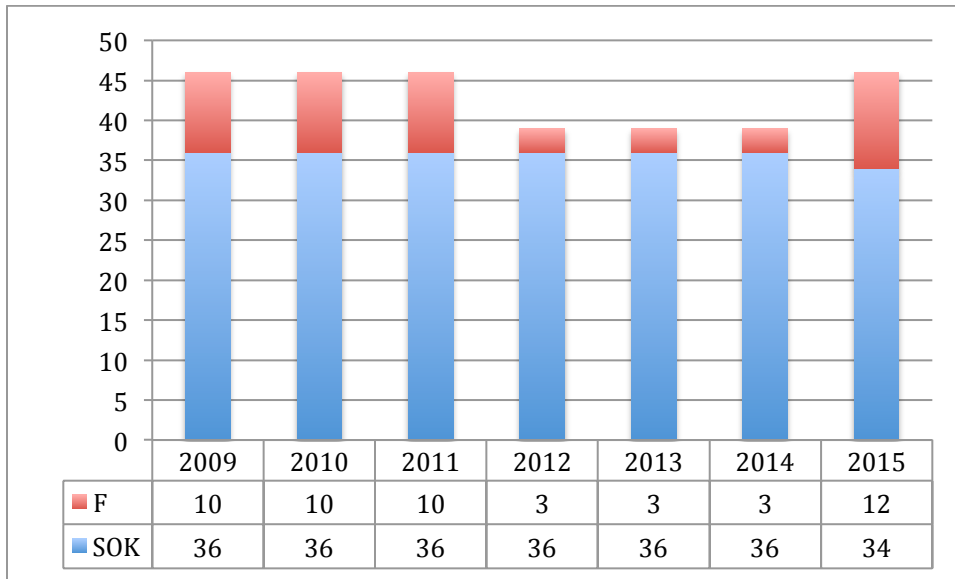


### Aggregate Value of J Licences (\$ millions by year)



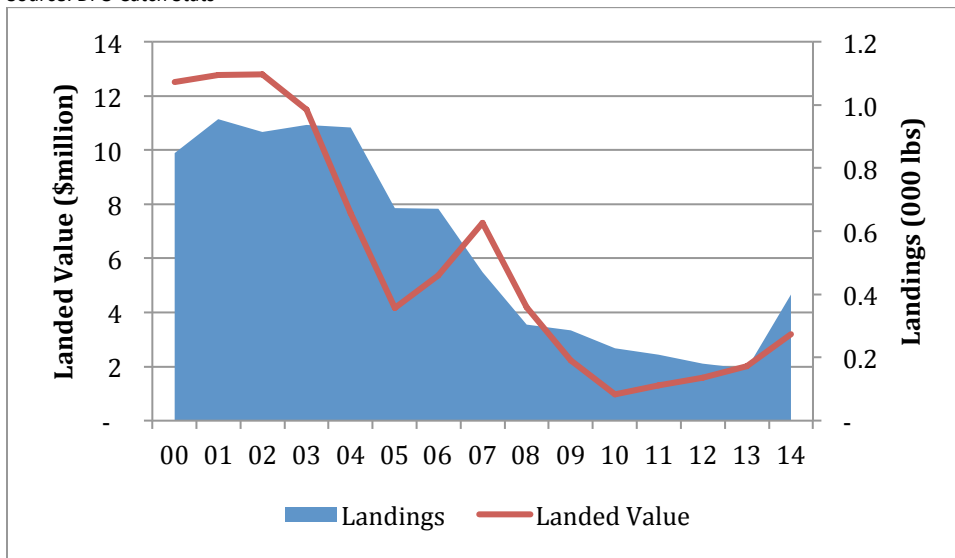
The sharp decline in J licence capitalization mirrors that seen in roe herring fisheries.

### J Licence Counts by Category



### Spawn on Kelp Landings & Landed Value Trends

Source: DFO Catch Stats



### Outlook/Commentary

The economics of the fishery are challenging, with operating costs high relative to expected revenues. Operating results vary by SOK operating location: some operations with abundant herring stocks and good quality product are performing adequately, while many others are choosing not to operate.

Market dynamics in the SOK fishery are similar to those in the roe herring fishery: weak demand in the single market, Japan.

## PELAGICS: Tuna and Sardine

Two fisheries that now feature permanent licence categories that trade on the open market are Tuna and Sardine. Current year partial valuations are provided for these fisheries:

### Tuna (Category USA 68)

General	
Licence Designation	USA 68
Nature of Licence	Party-based
# Commercial Licences	110
# Communal Commercial Licences	0
Area licensing?	no
Stacking?	no
Competitive or Quota fishery?	Competitive

Valuation Parameters	
Licence	per licence
Quota	n/a
Vessels	no
Amount of trading activity in category this year	Low
# Transactions underlying valuation	<3
Confidence in current year valuations	No valuation provided

### Current Valuation

#### Licence Value at March 31, 2015

Category	# Licences	Value/Licence (\$)	Total Value (\$)
USA 68	110	n/a	n/a

#### Valuation Comments

The tuna fishing Treaty between Canada and the USA has lapsed, meaning that the rights associated with the 110 USA 68 licences are tenuous. For the last two years, 45 licences have been granted access to US waters. USA 68 licence #s 1-45 had fishing rights, while the balance (#s 46-110) did not. The number of licences that will be permitted to fish in US waters in the future is uncertain.

There have been a couple of transactions reported for the valuation period (within the #s 1-45 tranche), but these have conditional clauses—the full purchase price will be paid only if fishing rights persist for a given duration; otherwise, the transactions are more like multi-season leases.

The notional value of tuna licences that have rights to fish in US waters is in the order of \$200,000.

## Sardine (ZS)

General	
Licence Designation	ZS
Nature of Licence	Party-based
# Commercial Licences	25
# Communal Commercial Licences	25
Area licensing?	
Stacking?	
Competitive or Quota fishery?	quota

Valuation Parameters	
Licence	per licence
Quota	n/a
Vessels	no
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 March 31, 2015

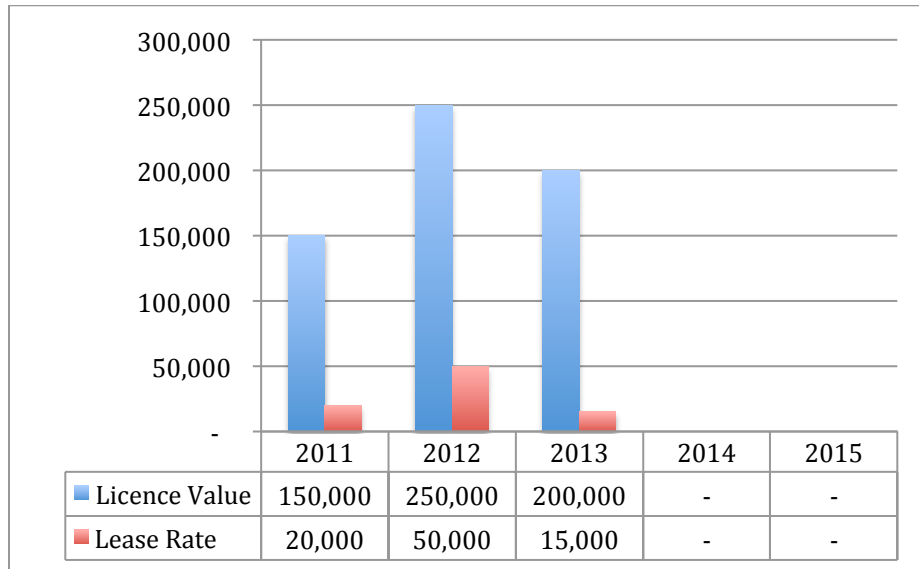
Category	# Licences	Value/Licence (\$)	Total Value (\$)
ZS	25	n/a	n/a

### Valuation Comments

2015 marked the third consecutive season that sardines failed to materialize in BC waters, resulting in no harvest for the season. Accordingly, both the licence and lease market have dried up.

Licensing Trends

Recent Sardine Valuations



Outlook/Commentary

There is grave concern about the future of the fishery, as sardines are known to exhibit long term cyclical distribution patterns in which they enter and exit northern hemisphere waters.



## GROUND FISH: Halibut

### Background to Valuation

General	
Licence Designation	L
Nature of Licence	Vessel-based
# Commercial Licences	343
# Communal Commercial Licences	92
Area licensing?	no
Stacking?	no
Competitive or Quota fishery?	quota

Valuation Parameters	
Licence	per foot
Quota	per lb (dressed)
Vessels	yes
Amount of trading activity in category this year	Low
# Transactions underlying valuation	<3 (licences) ≈10 (quota)
Confidence in current year valuations	Med

### Current Valuation

#### Licence and Quota Value at March 31, 2015

Category	# Licences/ lbs quota	Value per Licence/ lb quota (\$)	Total Value (\$)
L	343	1,000	14,680,400
Quota	4,910,196	74.00	363,354,488
Total Value			378,034,888

#### Valuation Comments

The value of L licence tabs ranges from \$800 to \$1,300 per foot; precise valuation is confounded because most sales include a minimum amount of quota and the apportionment can vary. L licence values have softened, it is reported, because groundfish integration offers long-lining opportunities using various categories of vessel-based licences. An average L tab (42.8') at \$1,000 per foot has a value of \$42,800.

The number of pounds of quota valued excludes cumulative relinquishments (estimated to be 17.8% of the TAC).

Quota transactions reached record high values this year, ranging from \$72-\$82 per lb. There were only a few transactions. There seem to be far more buyers than sellers, causing the market price of quota to rise.

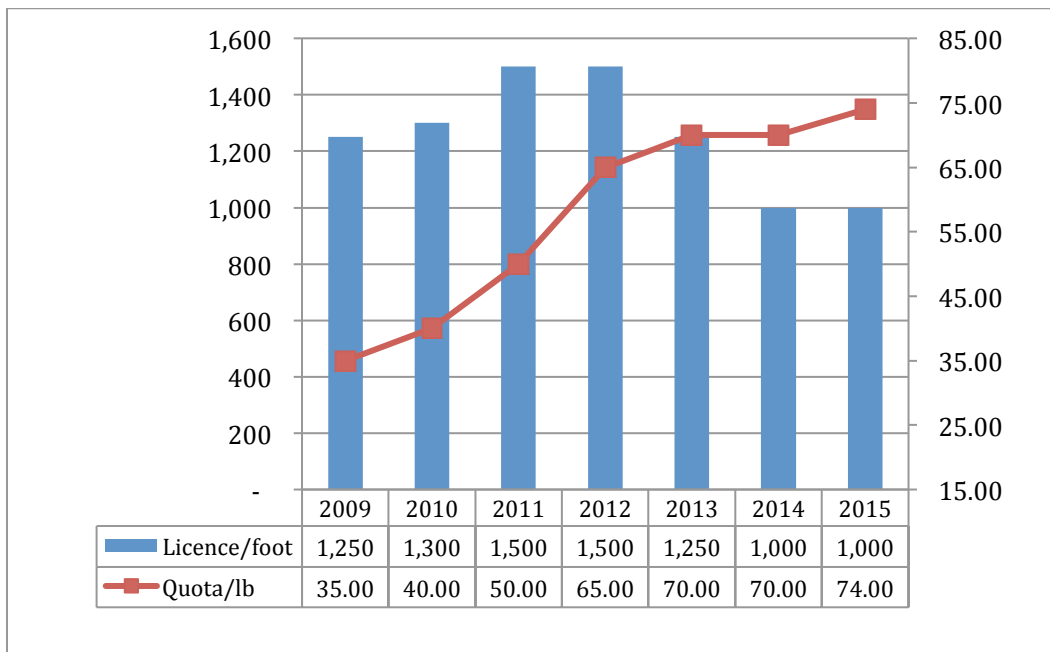
**Vessel Value**

Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only. The number of licensed vessels is drawn from current DFO data (may not be precise).

Halibut	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	251	147,000	36,987,000
Modern Style	167	268,000	44,756,000
<i>Total</i>	418	195,342	81,653,000

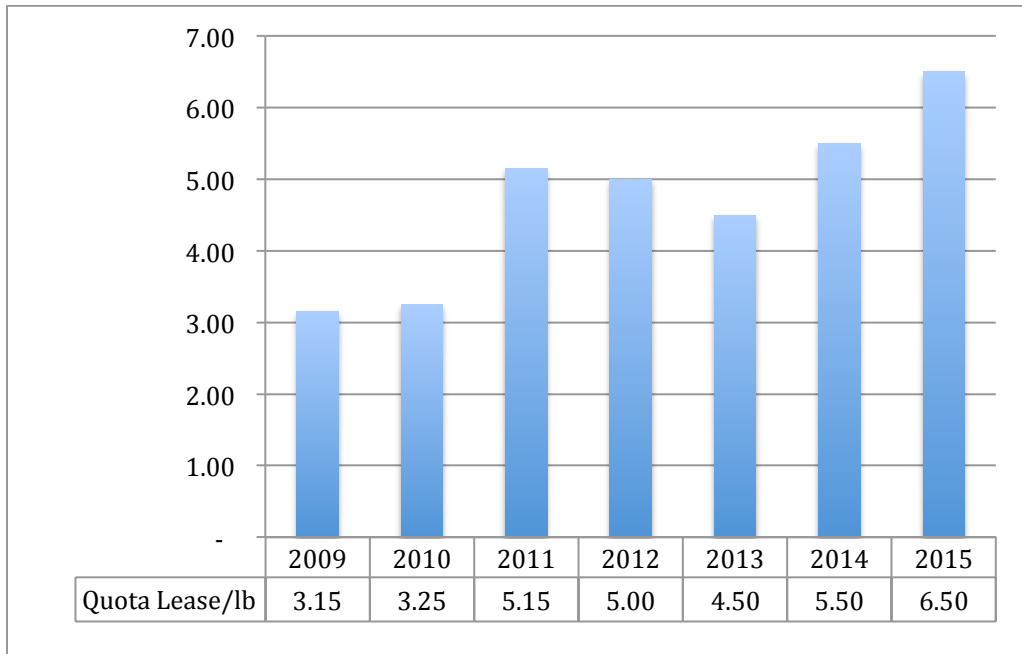
**License & Quota Trends**

Recent L Licence and Halibut Quota Valuations (Nominal \$s – Not Adjusted for Inflation)



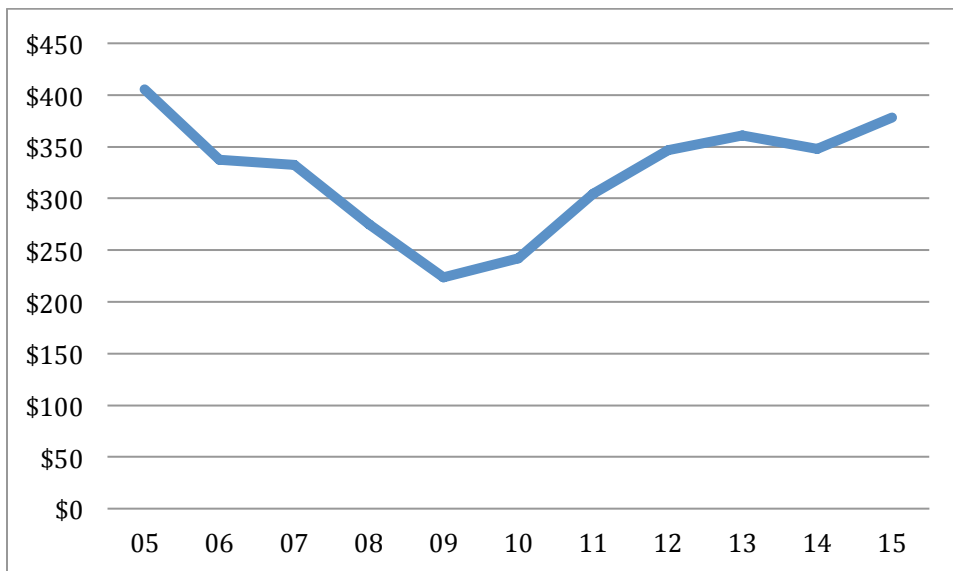
Halibut quota values continue on a sharp ascent, supported by very strong lease values as shown in the next chart.

Recent Halibut Quota Lease Rates (\$ per lb)



Lease rates in 2015 ranged from \$5.50 to over \$7.00 per lb. High fish prices, exceeding \$8.00 per pound at times, fueled these strong lease rates. In addition to the lease fee for quota, lessees also tend to pay the DFO/management fees.

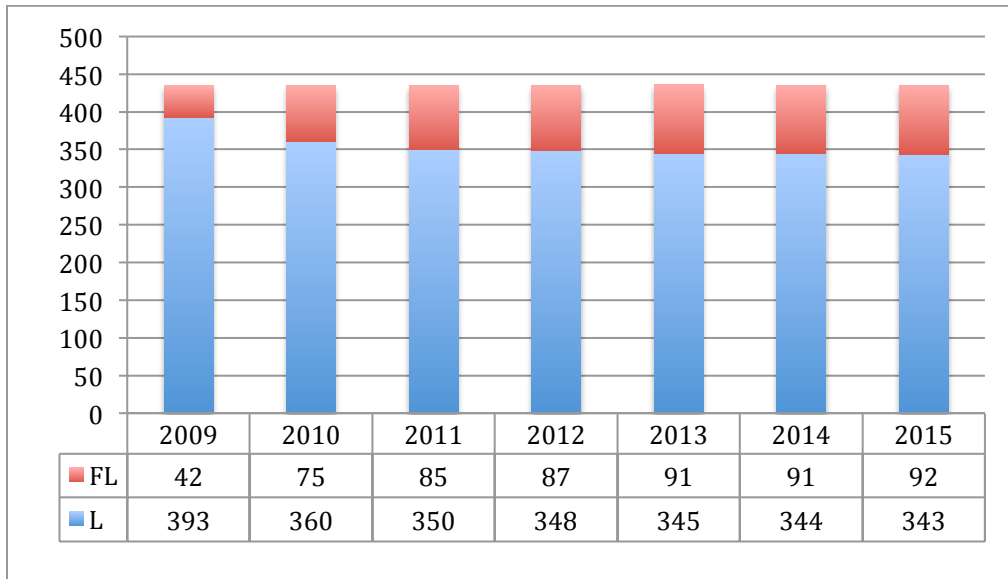
Aggregate Value of L Licences and Halibut Quota (\$ millions by year)



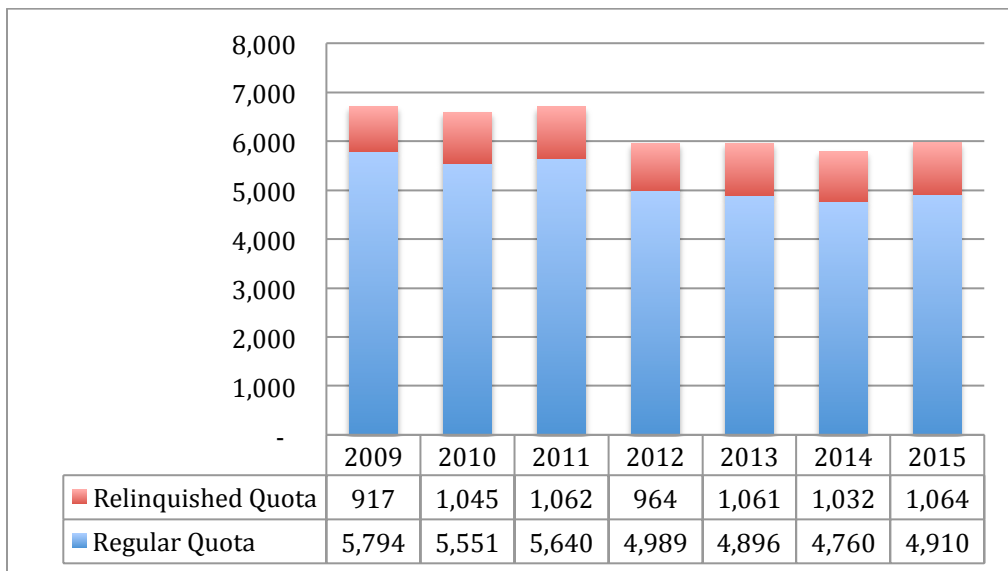
**Note: Chart excludes F licences and relinquished quota.**

Quota values have risen sharply in recent years, resulting in higher aggregate values reflecting increased demand for quota exacerbated by a reduction in the pool of quota (resulting from both PICFI retirements and declining TACs).

L Licence Counts by Category

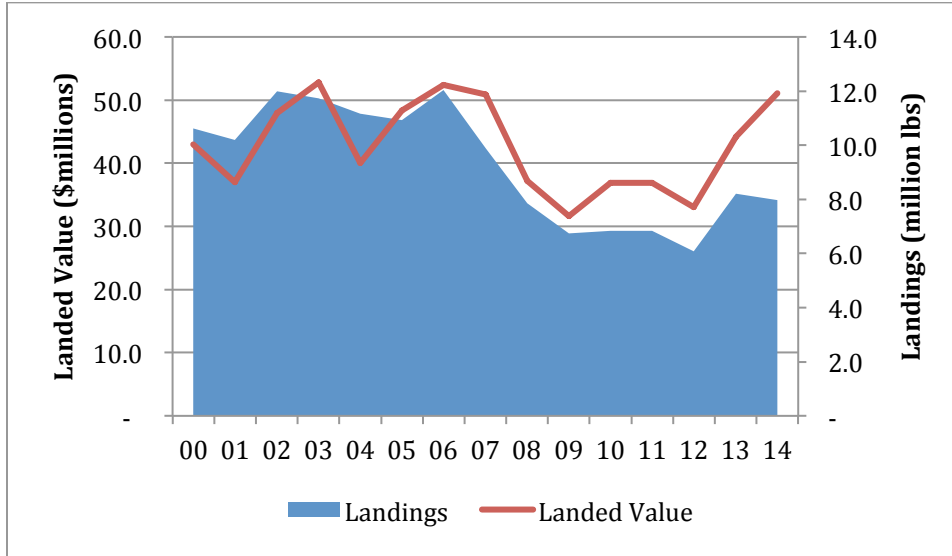


Halibut Quota by Category (Relinquished vs Regular) – thousands of lbs



## Halibut Landings & Landed Value Trends

Source: DFO Catch Stats. Data includes halibut-only, not other groundfish that may be landed during halibut trips.



### Outlook/Commentary

As the single most valuable fishery category (\$378m value of licences and quota in 2015), the halibut fishery enjoys strong fundamentals, including sound management and strong market demand. Quota prices continue to rise, given very strong demand for halibut in the North American market. Values are abetted currently by a weak Canadian dollar.

It remains to be seen at what price point consumers will switch from halibut to other seafood items.

A key factor for the halibut fishery in years to come is the state of the Pacific halibut resource. It is hoped that halibut conservation measures in recent years (the TAC has been at low levels) will be rewarded with a rebounding stock and rising TACs. There is currently evidence of this, as the TAC has increased slightly and there are suggestions that the halibut biomass is building.

## GROUND FISH: Sablefish (Black Cod)

### Background to Valuation

General	
Licence Designation	K
Nature of Licence	Vessel-based
# Commercial Licences	41
# Communal Commercial Licences	7
Area licensing?	no
Stacking?	no
Competitive or Quota fishery?	quota

Valuation Parameters	
Licence	per licence
Quota	per lb (jcut)
Vessels	yes
Amount of trading activity in category this year	Low
# Transactions underlying valuation	<3 (licences) ≈10 (quota)
Confidence in current year valuations	Low-Med

### Current Valuation

#### Licence and Quota Value at March 31, 2015

Category	# Licences/ lbs quota	Value per Licence/ lb quota (\$)	Total Value (\$)
K Licence	41	250,000	10,250,000
Quota	3,451,771	55.00	189,847,413
Total Value			200,097,413

#### Valuation Comments

K-tabs traded in the \$250,000-280,000 range. The K licence market is extremely thin, with only 41 general-category licences on the market.

Few sablefish quota transactions were identified again this year. Values were in the range of \$55 to \$60 per j-cut pound. The trend in the value of sablefish quota is up notably over the past six years.

The number of pounds of quota valued excludes cumulative relinquishments (estimated to be 11.3% of the TAC).

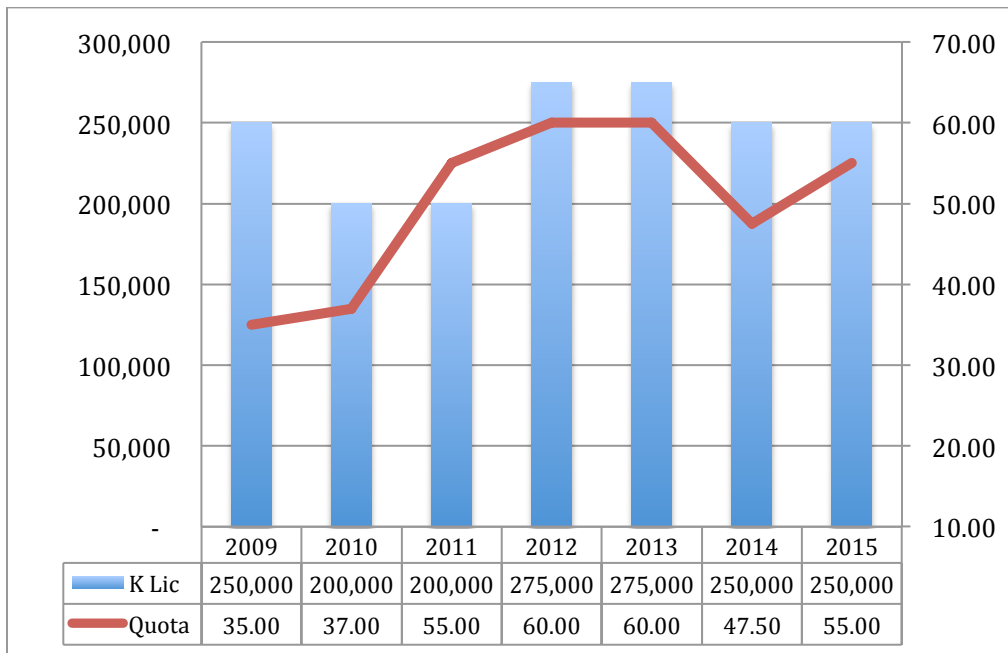
### Vessel Value

Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only. The number of licensed vessels is drawn from current DFO data (may not be precise).

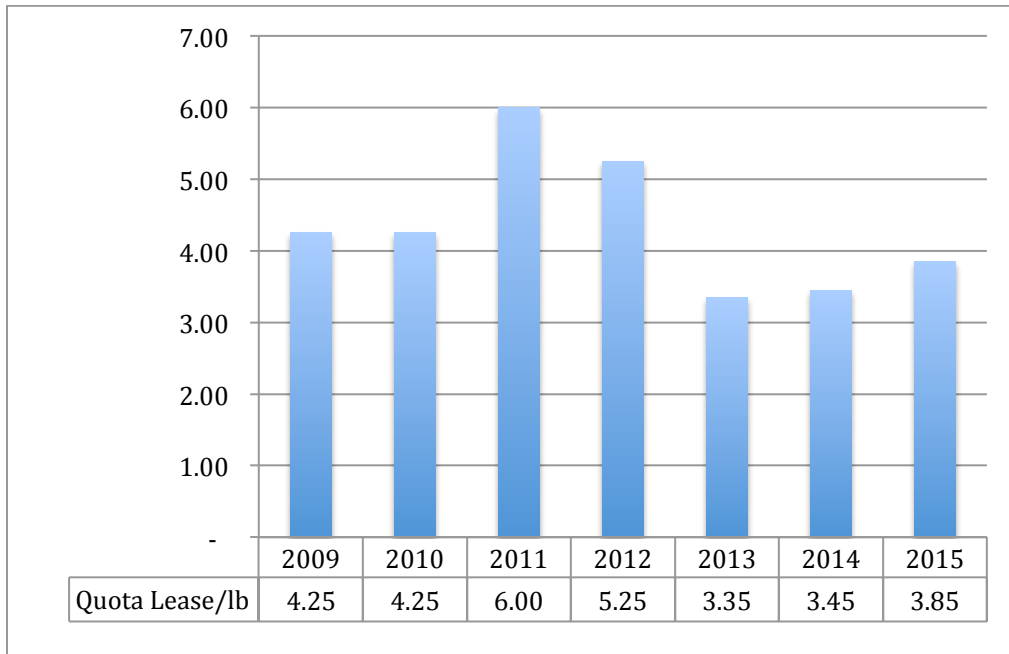
Sablefish	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	22	200,000	4,400,000
Modern Style	23	650,000	14,950,000
<i>Total</i>	45	430,000	19,350,000

### License & Quota Trends

Recent K Licence and Sablefish Quota Valuations (Nominal \$s – Not Adjusted for Inflation)



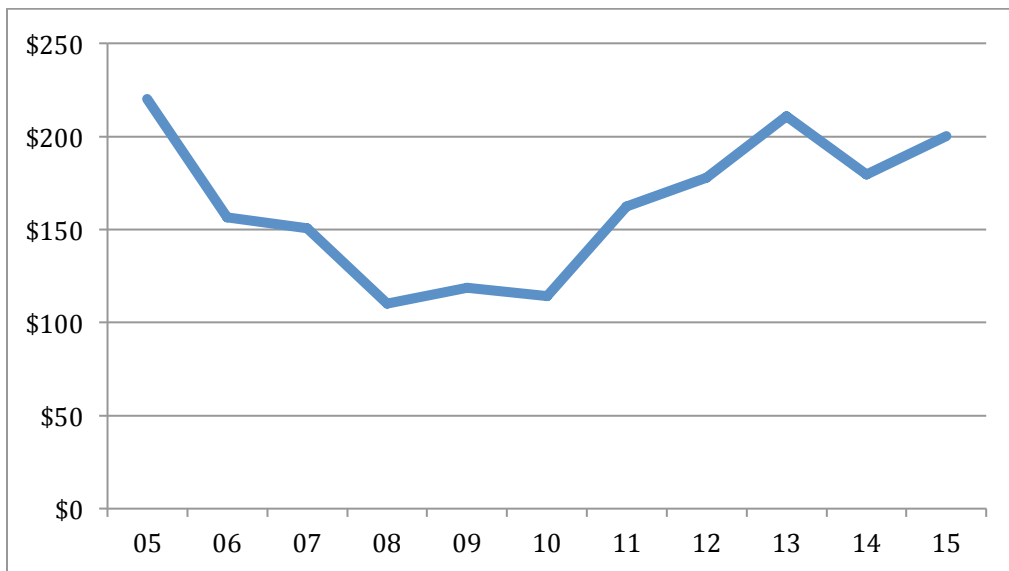
Recent Sablefish Quota Lease Rates (\$ per j-cut lb)



The lease rate is pegged at \$3.85, with a range from \$3.50 to \$4.50 per j-cut pound; for small isolated transactions motivated by the need to cover bycatch, the lease rate approached \$5.00.

The lessor generally pays the DFO/management fees in sablefish (about 25 cents per lb).

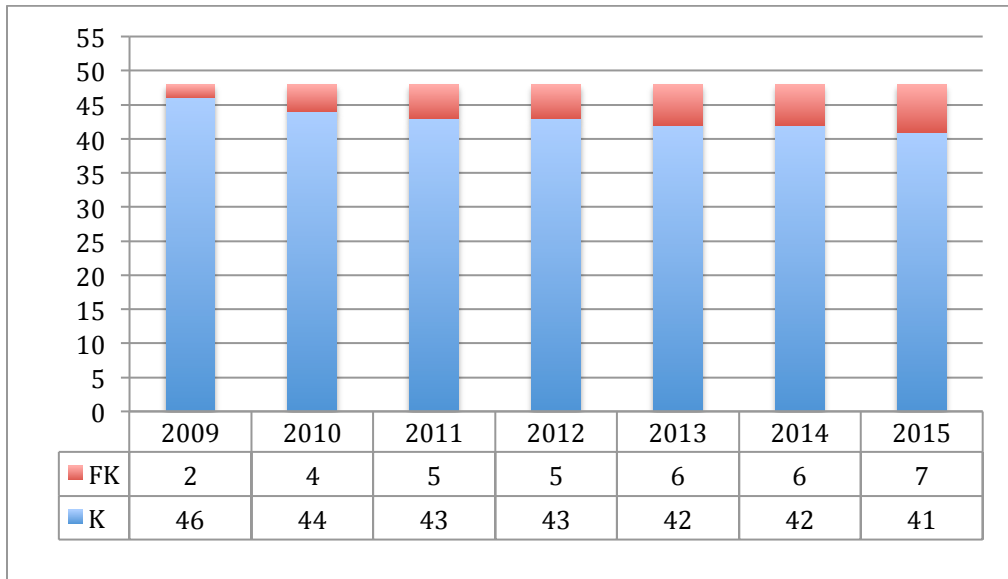
Aggregate Value of K Licences and Sablefish Quota (\$ millions by year)<sup>1</sup>



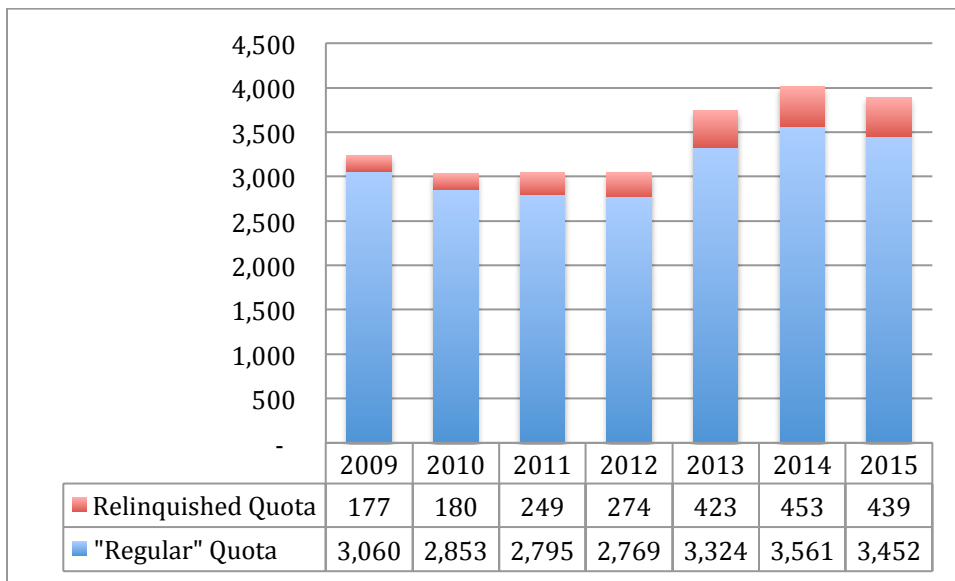
<sup>1</sup> excludes F licences and relinquished quota



**K Licence Counts by Category**



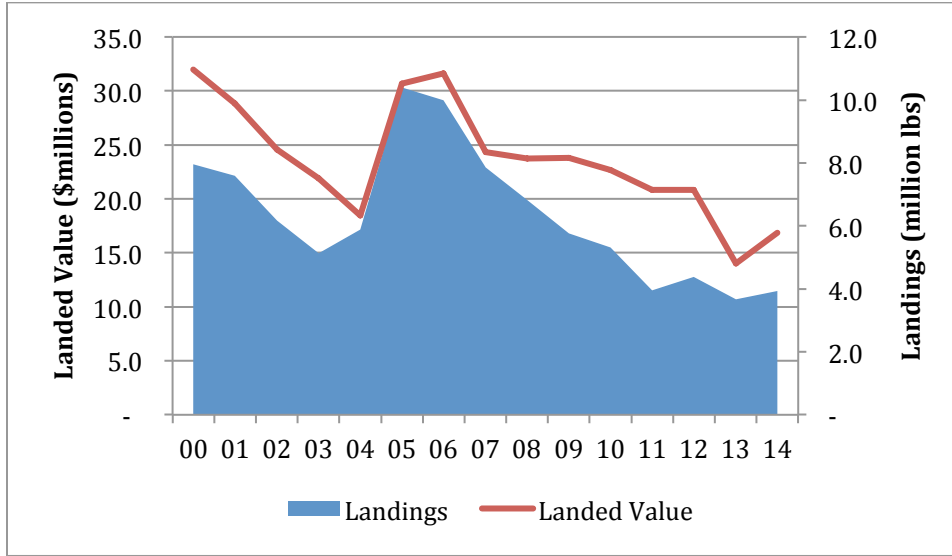
**Sablefish Quota by Category (Relinquished and Regular) – thousands of lbs**



After bottoming out in 2010-2012, the commercial TAC has grown slightly in recent years.

### Sablefish Landings & Landed Value Trends

Source: DFO Catch Stats. Data includes sablefish-only, note other groundfish that may be landed during sablefish trips.



### Outlook/Commentary

Sablefish saw very high landed fish prices in 2015 (comparable to halibut), but the cost of catching sablefish is higher than halibut and there are fewer K tabs, limiting the number of vessels that can actively fish.

There was an air of optimism regarding the fishery amongst informants interviewed.

## GROUND FISH: Groundfish Trawl

### Background to Valuation

General	
Licence Designation	T
Nature of Licence	Vessel-based
# Commercial Licences	135
# Communal Commercial Licences	4
Area licensing?	no
Stacking?	no
Competitive or Quota fishery?	quota

Valuation Parameters	
Licence	per foot
Quota	per lb
Vessels	yes
Amount of trading activity in category this year	Low
# Transactions underlying valuation	≈5 (licences) ≈5 (uncut quota) None (hake quota)
Confidence in current year valuations	Med (groundfish) Low (hake)

### Current Valuation

#### Licence and Quota Value at March 31, 2015

Category	# Licences/ lbs quota, thousands	Value per Foot/ lb quota (\$)	Total Value (\$ thousands)
T	135	\$900	7,825
Uncut quota	94,555	\$1.60	151,288
Hake outside	220,758	\$0.30	66,227
Total Value			225,340

#### Valuation Comments

T licence values are highly dependent on the specific holdings cap assigned to each licence. Values ranged from \$500 to \$1,500 per foot. At \$900/ft, the indicated average T licence value is \$56,000.

Uncut quota transactions and estimates of value ranged from \$1.50 to \$2.00 per pound, but there was very little volume of quota traded. While “uncut” groundfish quota is still the valuation basis for trawl quota, the species are increasingly dis-aggregated, with individual markets emerging by-species, by-area.

**PACIFIC FLEET LICENCE, QUOTA, AND VESSEL VALUATION: AT MARCH 31, 2015**

In the hake fishery, quota values have softened considerably, due to ongoing challenges in harvesting available TACs. Accordingly, the quota market has all but dried up. Estimates of hake value range from 25-40 cents per pound. The pegged value of 30 cents per pound reflects an estimate based on anecdotal information.

Values for Arrowtooth flounder (turbot) quota firmed during the year, with transactions in the 25-30 cents per pound range.

**Vessel Value**

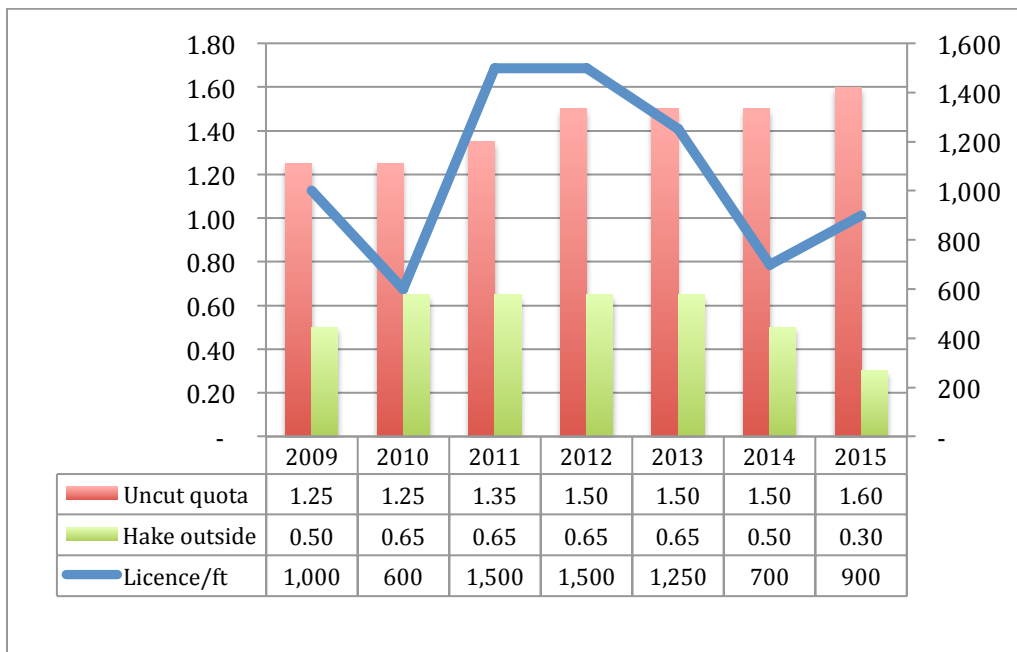
Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only. The number of licensed vessels is drawn from current DFO data (may not be precise).

Trawl	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	68	440,000	22,920,000
Modern Style	68	1,375,000	93,500,000
<i>Total</i>	136	907,509	123,420,000

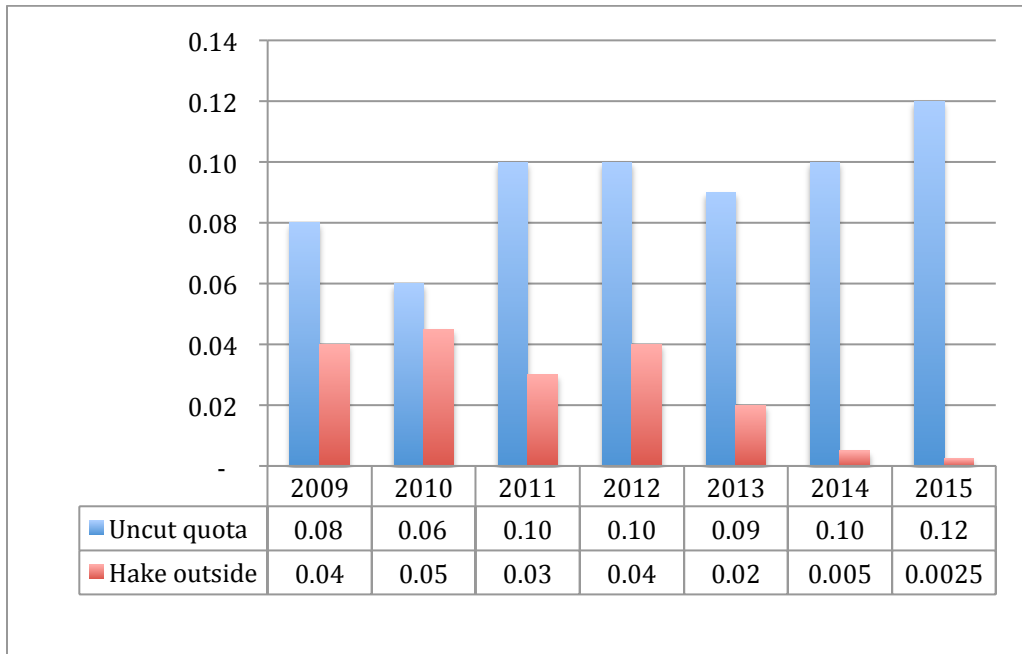
There are now four large-scale freezer-trawlers operating in the groundfish trawl fleet. These vessels each have multi-million dollar valuations but they are excluded from the values presented in the preceding table.

**Licence & Quota Trends**

**Recent T Licence and Trawl Quota Valuations (Nominal \$s – Not Adjusted for Inflation)**



Recent Trawl Quota Lease Rates (\$ per lb)



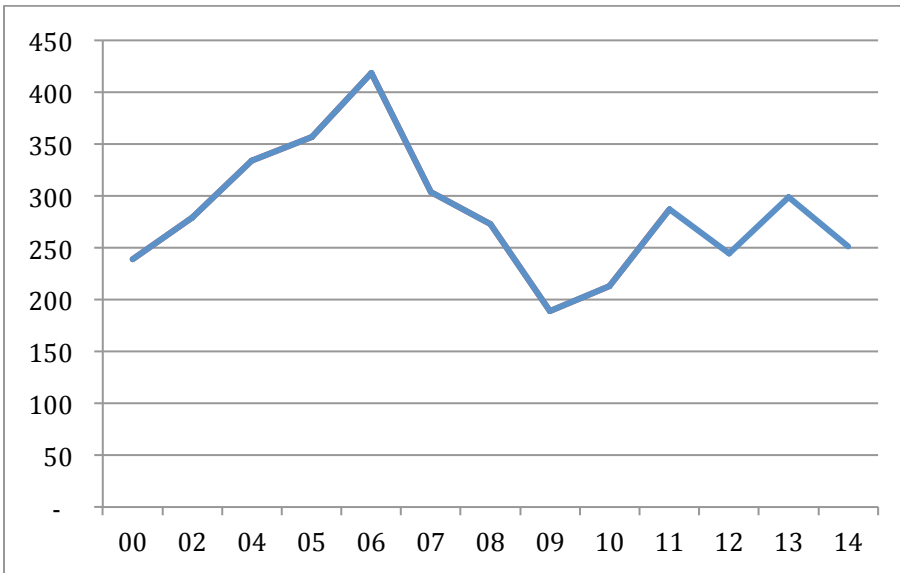
Uncut groundfish quota leases are pegged at \$0.12 per lb, though this value softened to perhaps \$0.10 per lb after the valuation date.

Hake quota lease rates were dampened by challenges in harvesting the TAC. Lease rates dropped to about ¼ cent per pound for offshore hake.

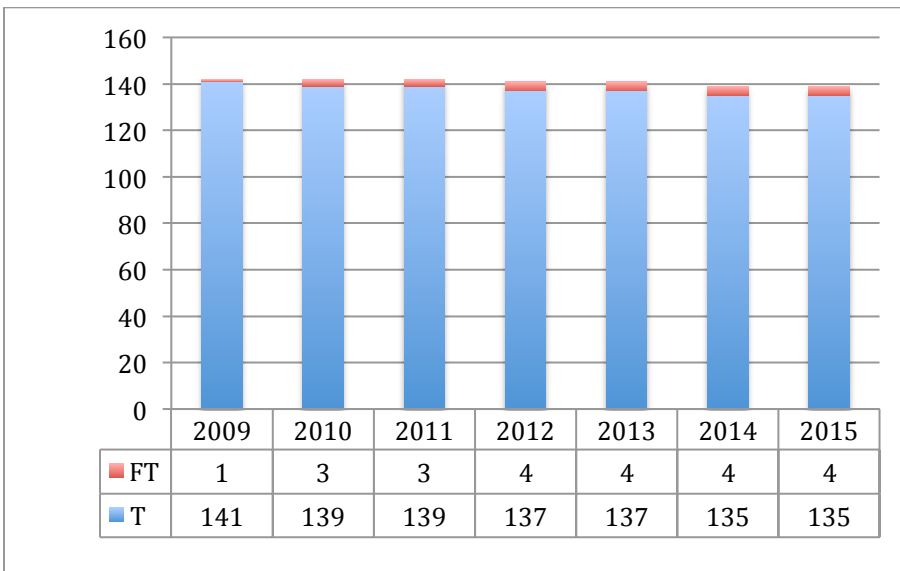
Arrowtooth flounder leases were in the 2-3 cents/lb range.

Leases for individual species were transacted at a variety of rates: large rockfish 15-18 cents/lb, and lingcod 20-25 cents/lb. Trawl quota may be leased within the trawl sector, or to vessels in the hook and line sector. Rates may vary according to sector.

Aggregate Value of T Licences and Trawl Quota (\$ millions by year)<sup>2</sup>



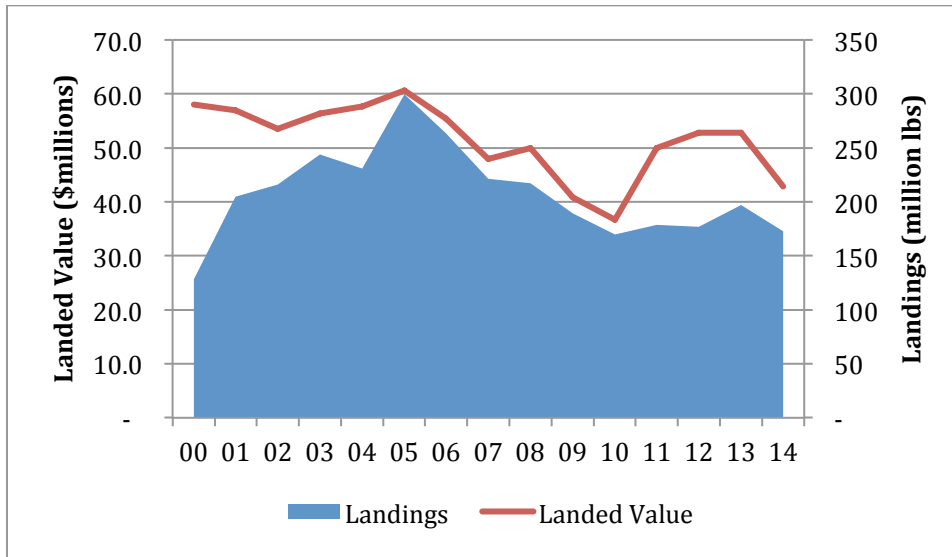
Licence Counts by Category



<sup>2</sup> Relinquished quota is not excluded from this calculation as the amount is immaterial (0.24% of the TAC in 2009 and 2010; nil in prior years)

## Groundfish Trawl Landings & Landed Value Trends

Source: DFO Catch Stats



### Outlook/Commentary

The groundfish business is reasonably steady; the weakening of the Canadian dollar is helpful (the bulk of fresh sales are to the USA market) as are lower energy prices (since fuel is a major fishing cost).

The hake business continues to suffer from poor fish catch-ability by the traditional “wet boat” fleet. Fish distribution and timing has made it impossible to fully harvest TACs. This has resulted in a softening of the hake quota market.

The exception in the hake fishery is the five-vessel freezer trawler segment. These large vessels are able to conduct extended trips over widely-ranging fishing grounds, and have been successful in harvesting their individual vessel quotas.

Another cloud in the hake business is the lack of access to eastern European markets related to political developments in Russia and Ukraine. Lost access to this key market curbed production (fishing operations) and necessitated a rapid shift to markets such as China.

The groundfish trawl fishery is extremely pro-active in addressing environmental concerns, with the trawl sector having recently entered into a pact with environmental groups to limit the footprint of bottom trawl gear.

## GROUND FISH: Rockfish Hook & Line

### Background to Valuation

General	
Licence Designation	ZN
Nature of Licence	Party-based
# Commercial Licences	212
# Communal Commercial Licences	50
Area licensing?	no
Stacking?	no
Competitive or Quota fishery?	quota

Valuation Parameters	
Licence	per licence
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	Low-Med
# Transactions underlying valuation	≈5 Outside licences <5 Outside licences
Confidence in current year valuations	Low for Inside Med for Outside

### Current Valuation

#### Licence Value at March 31, 2015

Category	# Licences	Value/Licence (\$)	Total Value (\$)
ZN Inside	54	35,000	1,890,000
ZN Outside	158	175,000	27,650,000
ZN Total	212	139,340	29,540,000

Note: in prior reports, ZN licence values were expressed in dollars per foot; dollars per licence is now used as this seems to be the unit most commonly used in the industry; graphs on the following page have been adjusted to reflect the current approach.

#### Valuation Comments

Inside ZN licence values range between \$30,000-\$40,000 per licence; a value of \$35,000 was pegged to reflect transactions at the valuation date.

Outside ZN licence values range from \$165,000 to \$200,000 per licence, with a value of \$175,000 pegged for valuation purposes. The value rose higher than \$175,000 after the valuation date.



Individual species/area groundfish quotas associated with ZN licences may be traded separately from the licence. For the purposes of valuation, however, ZN licences are deemed to include the full suite of species that were initially allotted to the licences.

**Vessel Value**

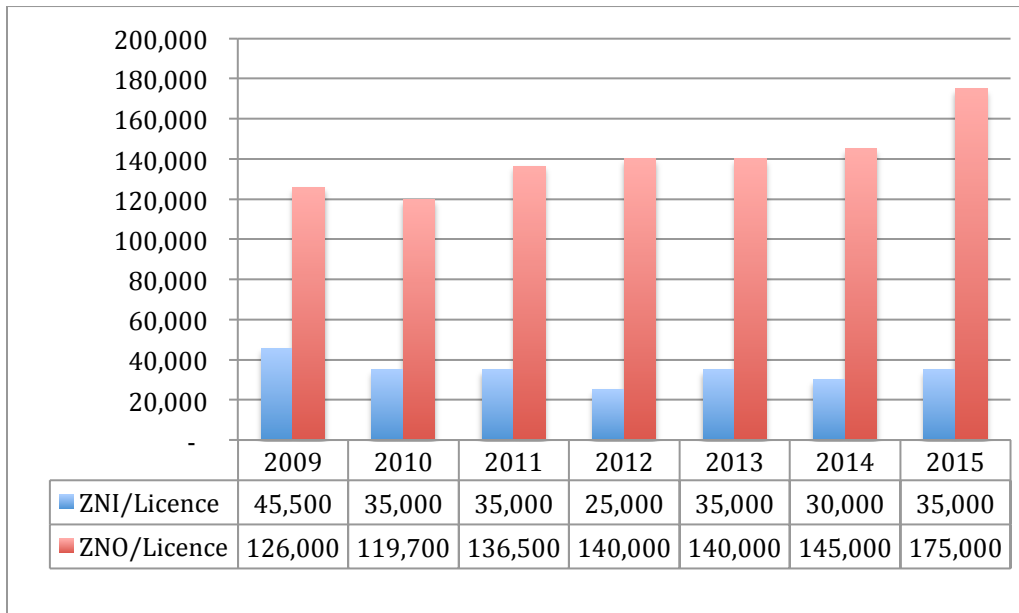
Vessel counts exclude F licences. Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only. The number of licensed vessels is drawn from current DFO data (may not be precise).

ZN Outside	# Vessels	Avg Vessel Value	Aggregate Value
Classic Style	116	136,000	15,735,200
Modern Style	62	286,000	17,817,800
<i>Total</i>	178	188,500	33,553,000

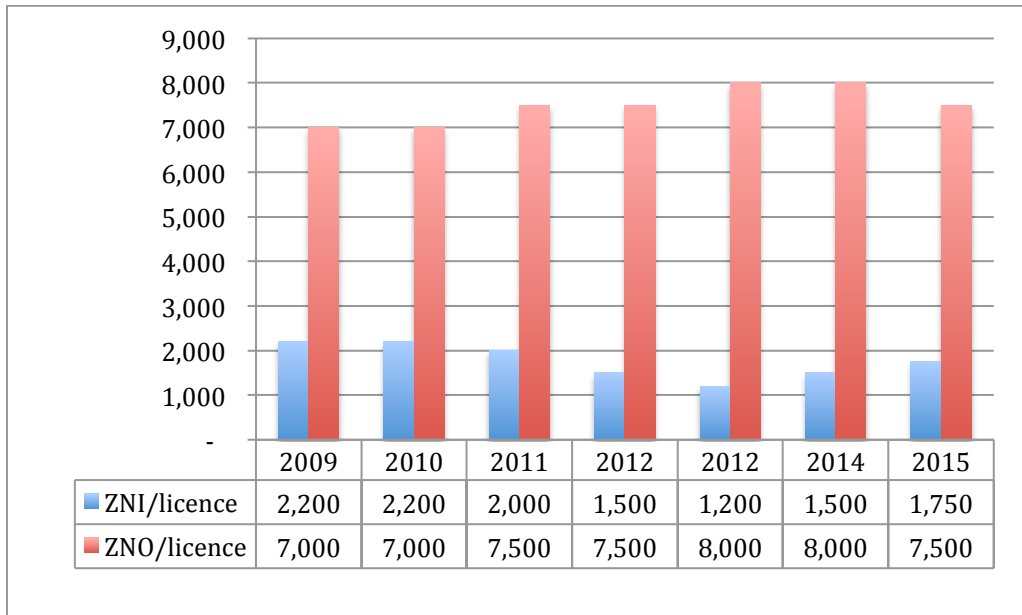
ZN Inside	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	12	75,000	900,000
Modern Style	7	196,000	1,176,000
<i>Total</i>	19	119,579	2,076,000

**Licensing Trends**

**Recent ZN Licence Valuations (Nominal \$s per licence – Not Adjusted for Inflation)**



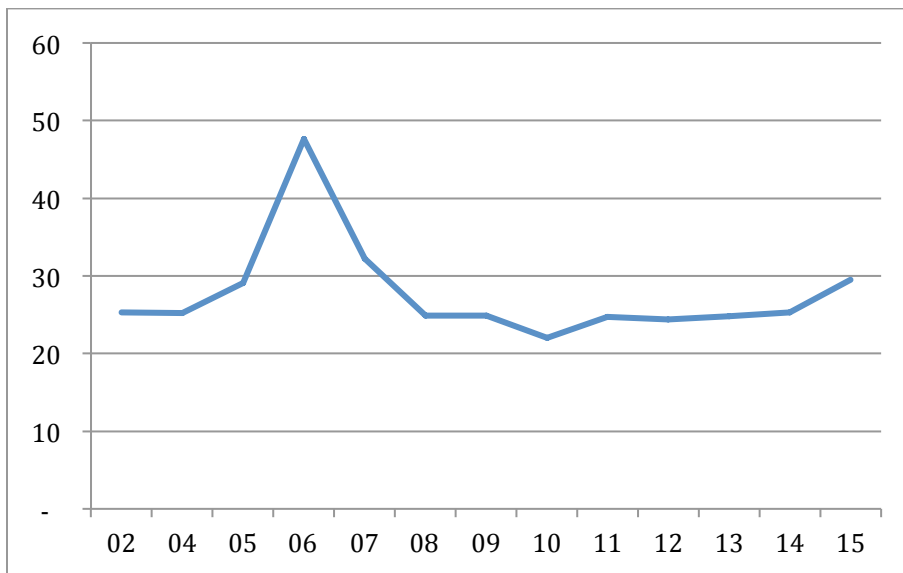
Recent ZN Licence Lease Rates (\$)



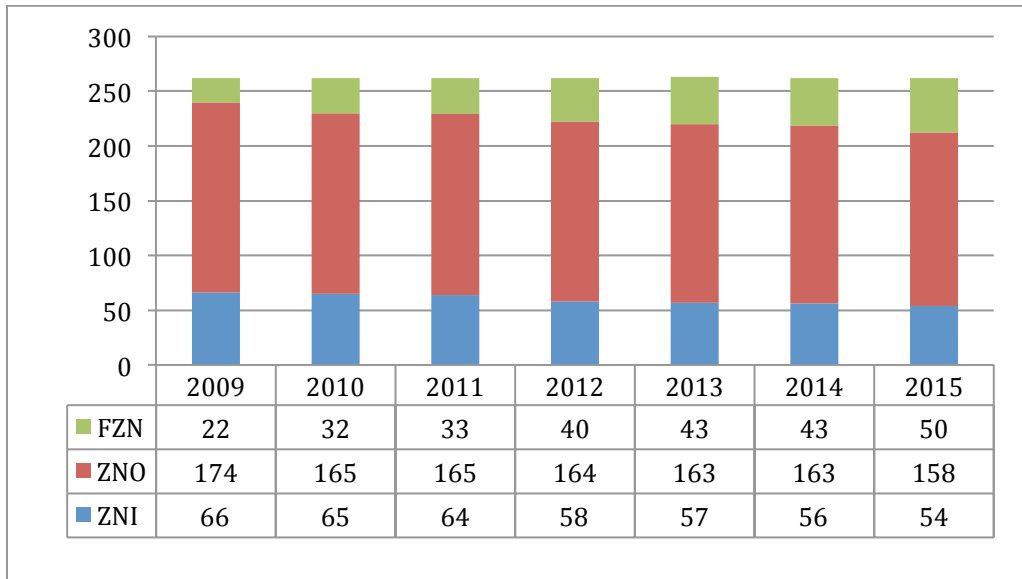
Outside ZN licence leases range from \$6,500 to \$10,000.

Inside ZN lease rates are reported in the \$1,500 to \$2,000 range (information was anecdotal, resulting in a low confidence in this valuation).

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

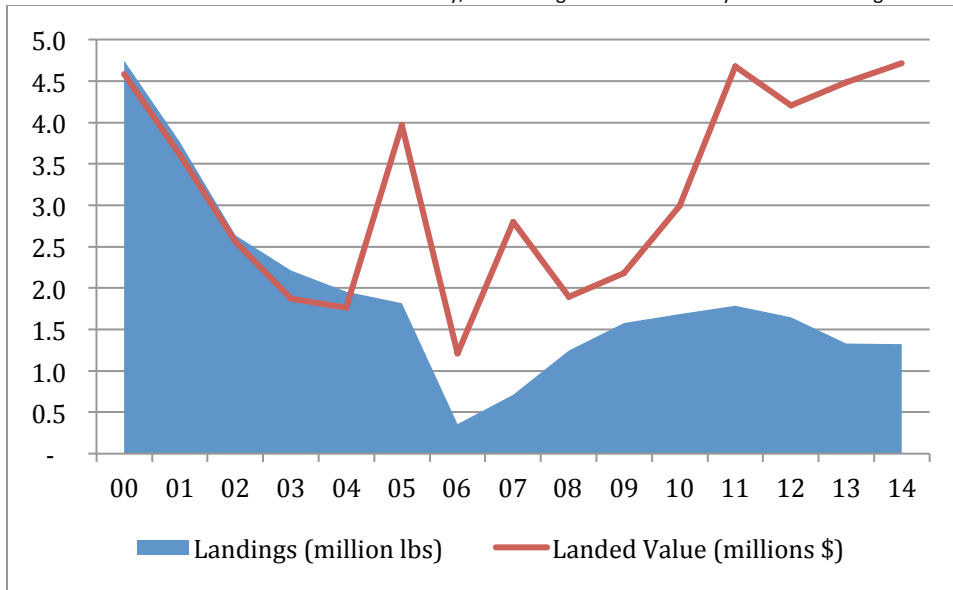


### Licence Counts by Category<sup>3</sup>



### Rockfish Hook & Line Landings & Landed Value Trends

Source: DFO Catch Stats. Data includes rockfish-only, not other groundfish that may be landed during rockfish trips.



Immediately after the implementation of the integration pilot program<sup>4</sup> (2006), ZN landings dipped sharply as rockfish was hoarded by other sectors as bycatch. As concerns that rockfish would be in short supply have been allayed, landings have rebounded.

<sup>3</sup> It is unknown whether the decline in the number of ZNI licences from 57 in 2013 to 56 in 2014 reflects a real change in the number of licences or an error in the data.

<sup>4</sup> [http://www.pac.dfo-mpo.gc.ca/publications/pdfs/cgip\\_management-pipcpf\\_gestion-eng.pdf](http://www.pac.dfo-mpo.gc.ca/publications/pdfs/cgip_management-pipcpf_gestion-eng.pdf)

## Outlook/Commentary

The outside ZN licence category supports both targeted rockfish fishing and the rockfish bycatch requirements of other groundfish categories (notably halibut and sablefish). Increasingly, quotas from outside ZN licences are used for the latter purpose.

Because of stock concerns for some rockfish species, the value of bycatch (and therefore outside ZN licences) is rising. ZN quota is “essentially used like trading cards to protect those other fisheries.”

## GROUND FISH: Lingcod and Dogfish

Lingcod and dogfish are discrete hook and line fisheries under the integrated groundfish IFMP. These fisheries are now managed under an IVQ program in which both permanent and temporary trades of quota are permitted.

Unlike most other fisheries, however, lingcod and dogfish do not have dedicated licence categories, but can be executed under the authority of any vessel-based licence. Therefore, these fisheries are difficult to pigeonhole for valuation purposes.

The lingcod and dogfish fisheries receive their own allocations, and can also source fish from, and lease fish to, other groundfish sectors under the Integrated Groundfish Management Plan.

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

### Lingcod

About 5 transactions researched.

#### Quota Value at March 31, 2015

Category	lbs Quota	Value/lb	Total Value (\$)
Lingcod Quota (H&L)	2,574,973	\$8.00	20,599,782

Lingcod quota transactions range from \$6.50 to \$10.00 per lb. A rate of \$8.00 is pegged as being reflective of transactions at the valuation date.

Lingcod leases in the hook and line fishery were in the 30-40 cents per lb range.

The difference in lease rates is related to the ease and cost of catching lingcod in different areas, and the costs of getting the fish to market. The WCVI is the most expedient lingcod harvesting area for the hook and line fleet, while the north coast poses logistical challenges.

### Dogfish

No transactions.

#### Quota Value at March 31, 2015

Category	lbs Quota	Value/lb	Total Value (\$)
Dogfish Quota (H&L)	20,987,792	\$0.08	1,679,023

An anecdotal dogfish quota valuation is 8 cents/lb. There was virtually no lease value this year.

The dogfish fishery struggles with challenging harvesting logistics and economics as well as poor market conditions. BC has lost market penetration in the key European market because of strong supply from the east coast of the USA (this region enjoys a competitive advantage over BC because of higher volume and proximity to market). There is currently little activity by the dogfish fleet.

## SHELLFISH: Prawn-by-Trap

### Background to Valuation

General	
Licence Designation	W
Nature of Licence	Vessel-based
# Commercial Licences	193
# Communal Commercial Licences	57
Area licensing?	no
Stacking?	yes (traps)
Competitive or Quota fishery?	Competitive

Valuation Parameters	
Licence	per foot
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	Med
# Transactions underlying valuation	≈10
Confidence in current year valuations	Low-Med

### Current Valuation

#### Licence Value at March 31, 2015

Category	# Licences	Value/ Foot (\$)	Total Value (\$)
W Licences	193	20,000	141,662,000

#### Valuation Comments

Reasonable transactions activity was unearthed for the period. Transactions ranged from \$16,000 to \$22,000 per foot. In general, short licences trade for higher per-foot values than longer ones, though longer licences still have a higher overall value. For example, the following relationship could apply to this year's valuation (example only):

Licence Length	Value	Value per ft
30 feet	\$650,000	\$21,667
42 feet	\$800,000	\$19,048

Average licence value based on \$20,000 per foot and 36.7' vessel = \$734,000.

Part of the reason for a wide range of values is that transactions often include vessels and fishing gear, and apportionment of values among asset categories varies, being based on tax and other considerations. *It is difficult to ascertain the value ascribed to the licence in such transactions.*

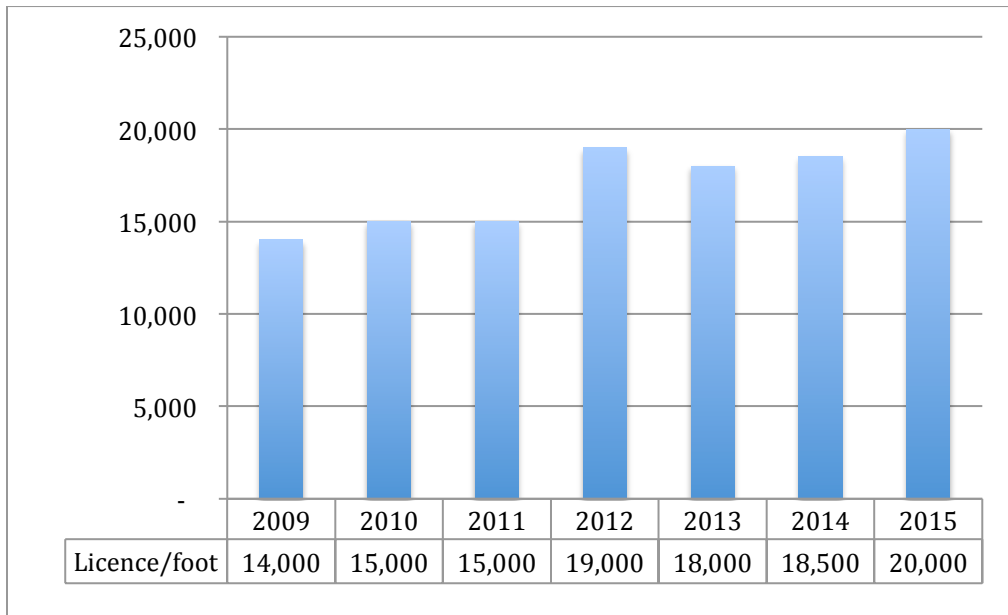
### Vessel Value

Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only. The number of licensed vessels is drawn from current DFO data (may not be precise).

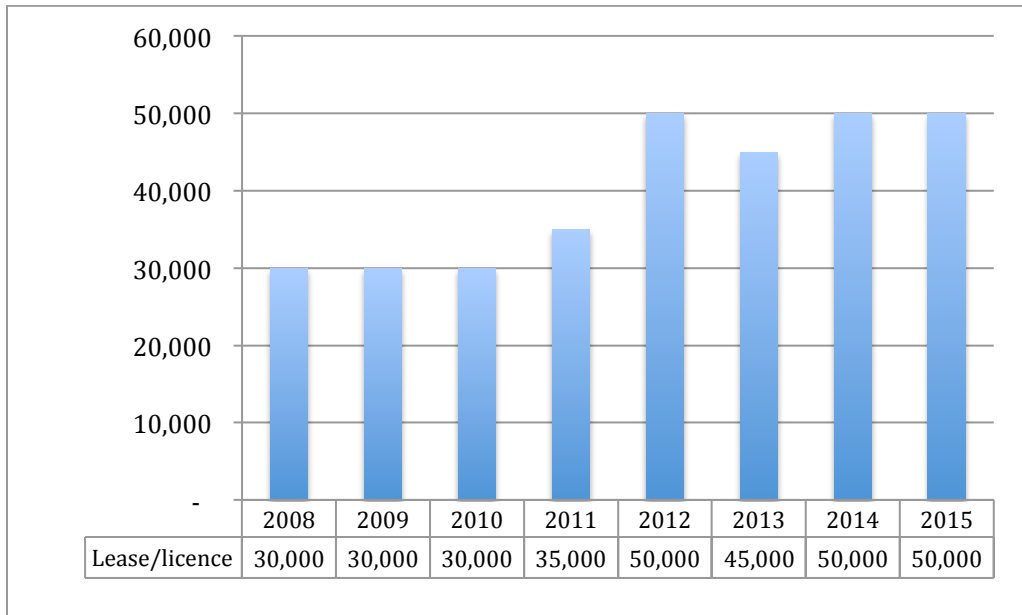
Prawn	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	100	162,000	16,200,000
Modern Style	149	325,000	48,425,000
<i>Total</i>	225	259,538	64,625,000

### Licensing Trends

Recent W Licence Valuations (Nominal \$s – Not Adjusted for Inflation)



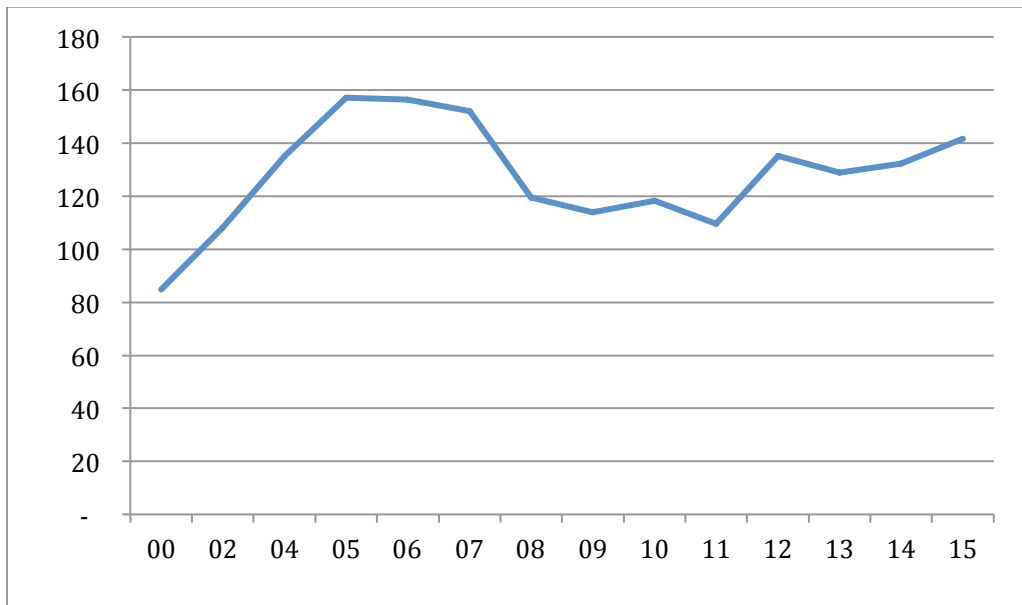
Recent W Licence Lease Rates (\$)



The prawn licence leasing market is facilitated by the ability to stack second licences (and thereby an additional 150 traps), and by the pool of FW licences (that are party-based and have more lenient transfer restrictions than W licences).

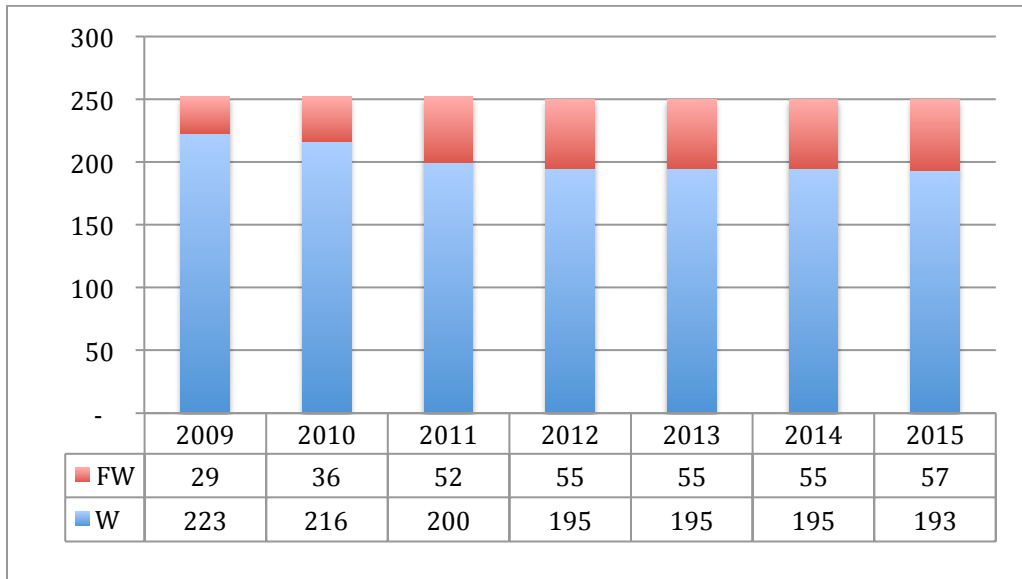
“Base” (first) licences ranged from \$40,000-\$55,000, with “stackers” often \$10,000 lower. A price of \$50,000 is pegged for a one-year lease, although this value may have softened after the valuation date.

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



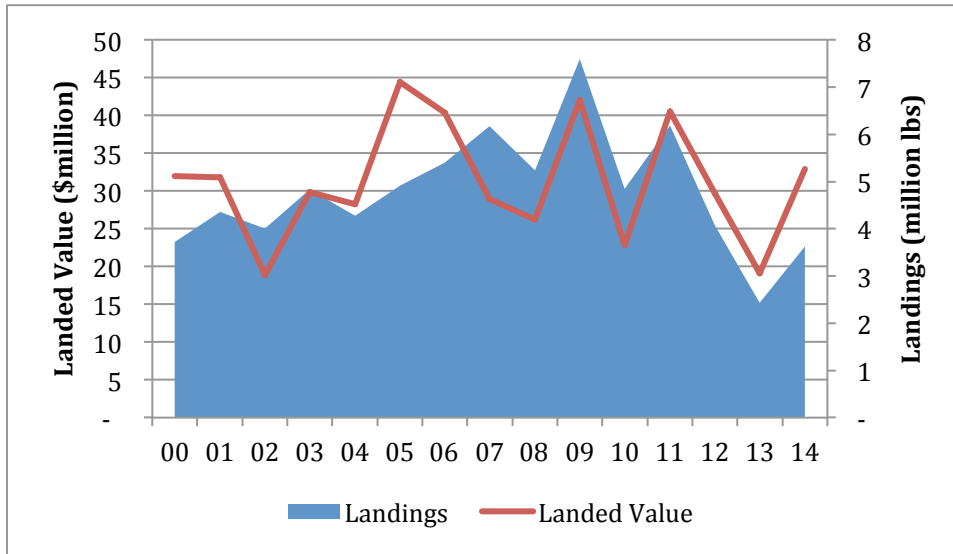


### W Licence Counts by Category



### Prawn Landings & Landed Value Trends

Source: DFO Catch Stats



### Outlook/Commentary

Prawn has been a strong category for the past few seasons. While results remain solid, there are concerns about the high level of pressure on the stock (from all fishery sectors including sport and FSC) and market conditions. There is some expectation that the 2016 season could see poorer results than recent seasons.

## SHELLFISH: Crab

### Background to Valuation

General	
Licence Designation	R
Nature of Licence	Vessel-based
# Commercial Licences	189
# Communal Commercial Licences	32
Area licensing?	7 areas
Stacking?	no
Competitive or Quota fishery?	Competitive

Valuation Parameters	
Licence	per foot
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	Low-Med
# Transactions underlying valuation	<10
Confidence in current year valuations	Med

### Current Valuation

#### Licence Value at March 31, 2015

Category	# Licences	Value/Foot (\$)	Total Value (\$)
R Licences	189	23,000	134,757,000

#### Valuation Comments

Crab licences ranged from \$18,000/ft to \$25,000+ per ft (for very small licences).

In general, short licences trade for higher per-foot values than longer ones, though longer licences still have a higher overall value. For example, the following relationship could apply to this year's valuation (example only):

Licence Length	Value	Value per ft
25 feet	\$650,000	\$26,000
42 feet	\$850,000	\$20,238

Average licence value based on \$23,000 per foot and 31' vessel = \$713,000.

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.

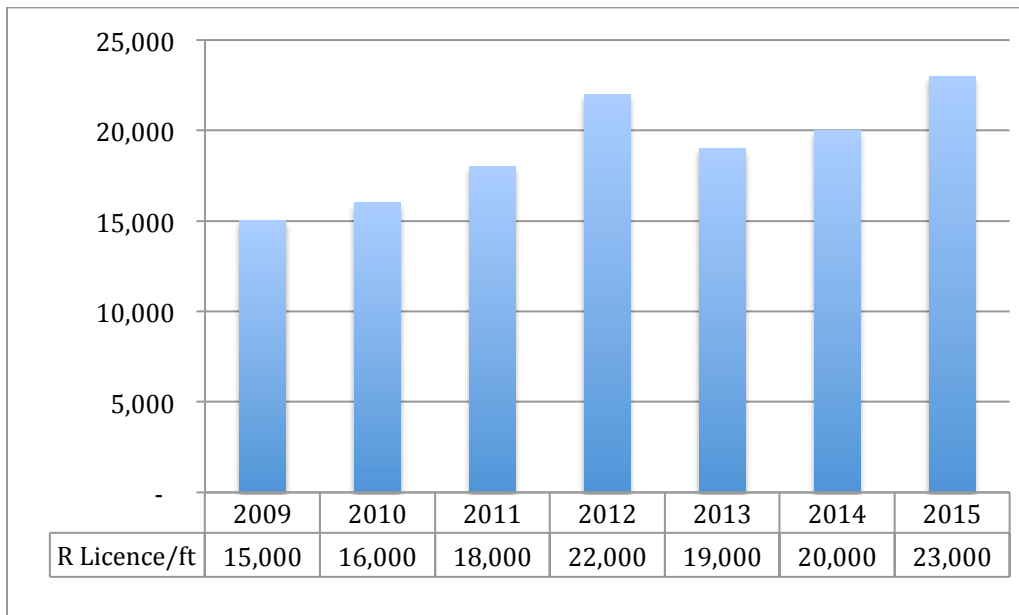
### Vessel Value

Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only. The number of licensed vessels is drawn from current DFO data (may not be precise).

Crab	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	87	144,000	12,528,000
Modern Style	131	350,000	48,850,000
<i>Total</i>	218	267,789	58,378,000

### Licensing Trends

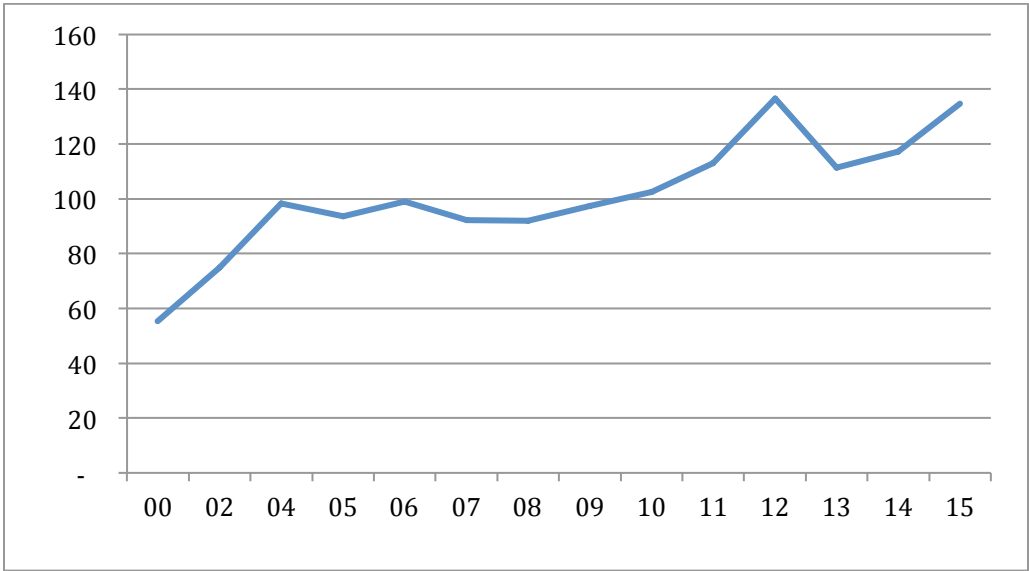
#### Recent R Licence Valuations *(Nominal \$s – Not Adjusted for Inflation)*



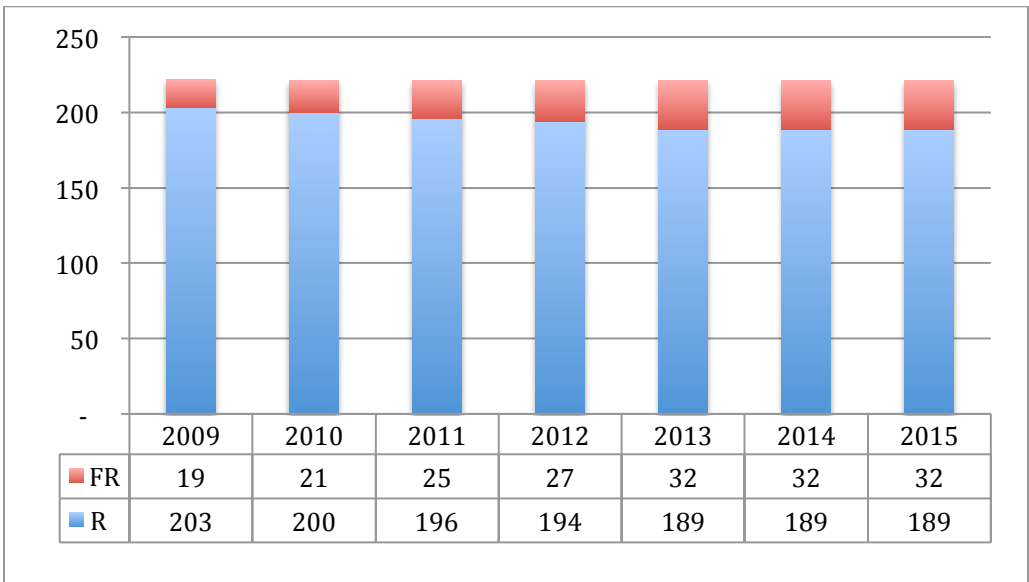
Some of the variation seen in licence values over the years is related to the mix of transactions occurring each year. For example, when transactions are weighted to longer licences, a lower valuation can result; the converse is true in years when shorter licences predominate among the recorded transactions.

PACIFIC FLEET LICENCE, QUOTA, AND VESSEL VALUATION: AT MARCH 31, 2015

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

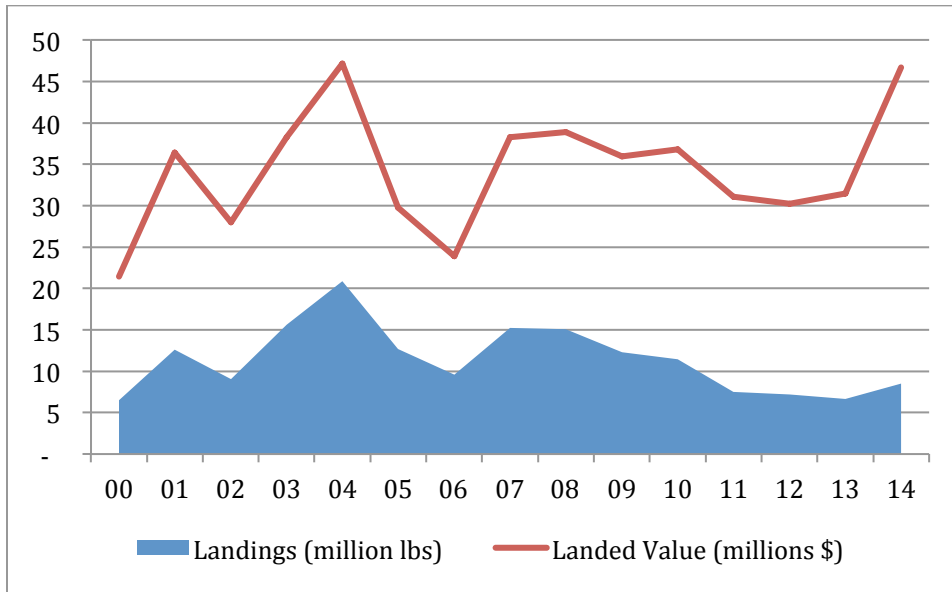


Licence Counts by Category



## Crab Landings & Landed Value Trends

Source: DFO Catch Stats



### Outlook/Commentary

The crab fishery saw very high landed values for product last year, abetted by interruptions in the lower 48 crab fishery.

Results have been strong for the crab management areas near urban centres, but less so for remoter areas.

Area A, generally the high-volume fishing area, continued to see lower landings relative to historical averages.

## SHELLFISH: Shrimp-by-Trawl

### Background to Valuation

General	
Licence Designation	S
Nature of Licence	Vessel-based
# Commercial Licences	215
# Communal Commercial Licences	23
Area licensing?	no
Stacking?	no
Competitive or Quota fishery?	Competitive

Valuation Parameters	
Licence	per foot
Quota	n/a
Vessels	yes
Amount of trading activity in category this year	Low-Med
# Transactions underlying valuation	<10
Confidence in current year valuations	Low-Med

### Current Valuation

#### Licence Value at March 31, 2015

Category	# Licences	Value/ Foot (\$)	Total Value (\$)
S Licences	215	1,000	9,008,500

#### Valuation Comments

Transactions ranged widely this year from \$250 - \$3,000 per foot. 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 the west coast of Vancouver Island have emerged.

A 35' licence was still worth perhaps \$20,000 in early 2015, while 65' licences traded in the \$100,000-\$200,000 range by late in the year.

A value of \$1,000 per foot is pegged to bridge the gap between the low-earning and high-earning licences. An average licence value based on a \$1,000 per foot valuation and 41.9' average vessel length is \$41,900.

Leases of FS licences were not occurring at the valuation date, but deals based on 10% of the gross for larger licences were being transacted in early 2016.

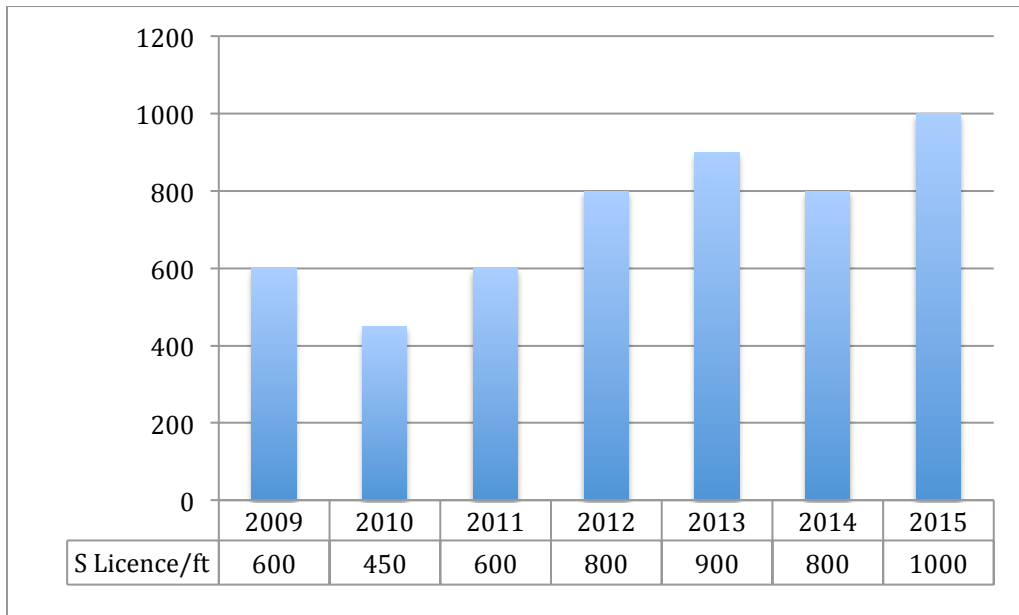
### Vessel Value

Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only. The number of licensed vessels is drawn from current DFO data (may not be precise).

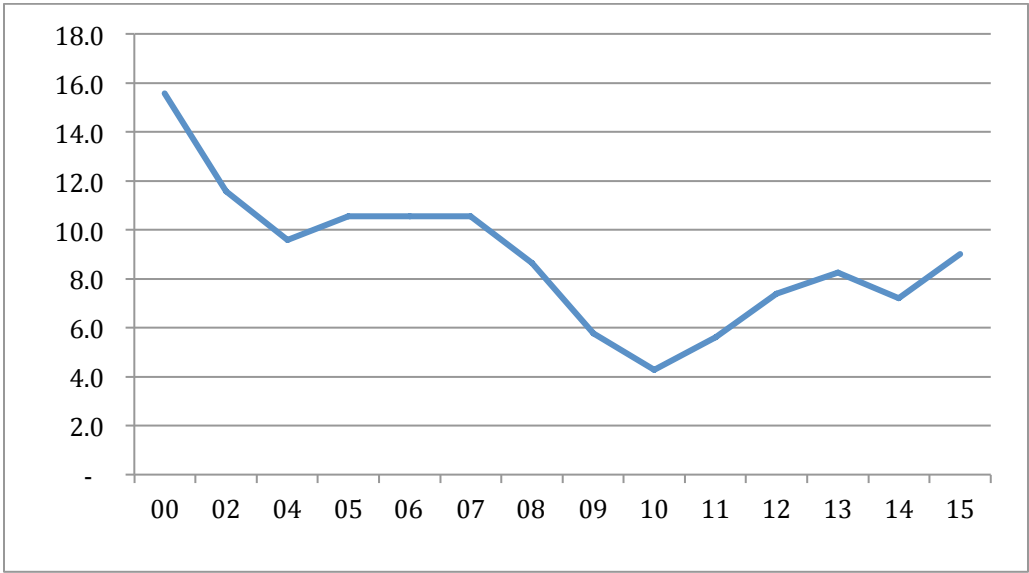
Shrimp Trawl	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	149	83,000	12,367,000
Modern Style	64	167,000	10,688,000
<i>Total</i>	213	108,239	23,055,000

### Licensing Trends

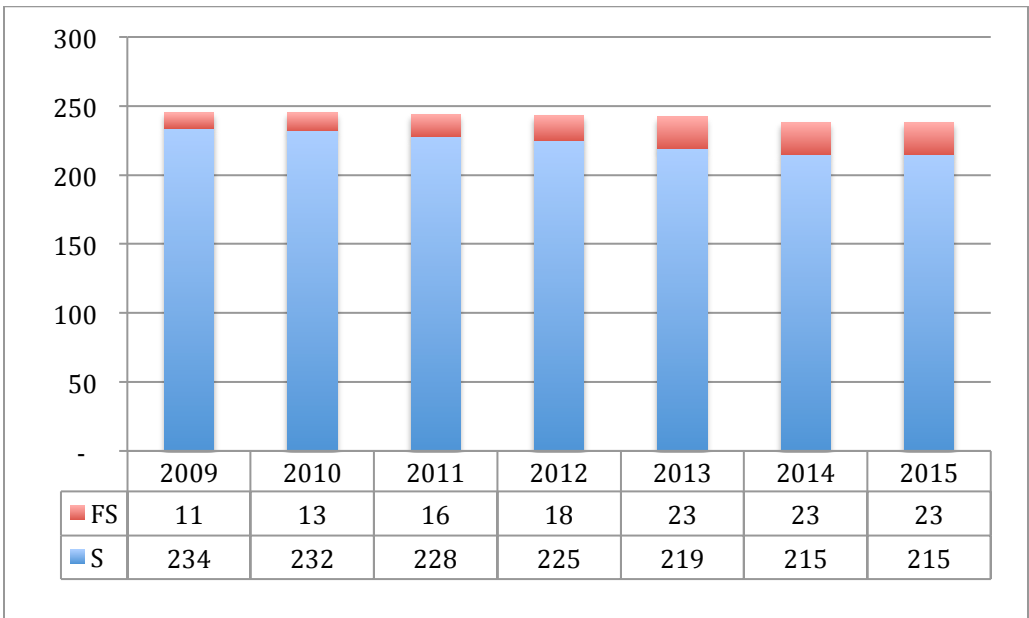
Recent S Licence Valuations (Nominal \$s – Not Adjusted for Inflation)



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



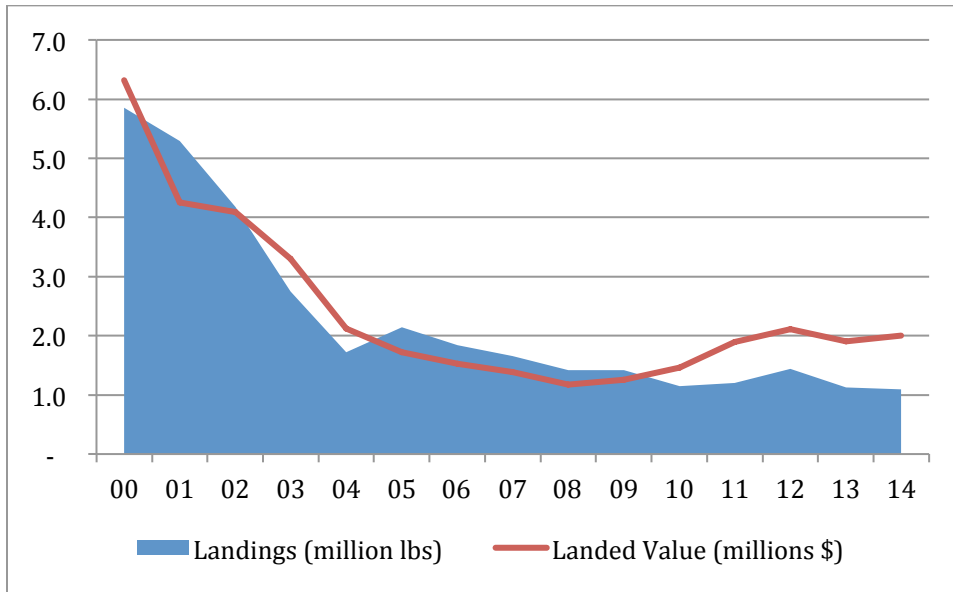
S Licence Counts by Category





## Shrimp Landings & Landed Value Trends

Source: DFO Catch Stats



### Outlook/Commentary

Large TACs for pink shrimp off the west coast of Vancouver Island, accessible only by larger seagoing vessels, coupled with markets for IQF shrimp (not peeled), have combined to create a profitable opportunity for a portion of the shrimp fleet.

The duration of the opportunity—pink shrimp is a short-lived species, and a “race for fish” is on—is unknown at this time.

## SHELLFISH: Geoduck/Horseclam

### Background to Valuation

General	
Licence Designation	G
Nature of Licence	Vessel-based
# Commercial Licences	50
# Communal Commercial Licences	5
Area licensing?	3 areas
Stacking?	yes
Competitive or Quota fishery?	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)
# Transactions underlying valuation	≈10
Confidence in current year valuations	Med

### Current Valuation

#### Licence Value at March 31, 2015

Category	# Licences/ lbs quota	Value per Licence/ quota blk (\$)	Total Value (\$)
G Licence (tab)	50	250,000	12,500,000
Quota Blocks	500	550,000	275,000,000
Total Value			287,500,000

#### Valuation Comments

Estimates of G licence (tab, or licence-only) values indicate a \$250,000 average valuation.

Quota block values range from \$520,000 to \$600,000, with a value of \$550,000 pegged.

The above valuations suggest that a G licence with 10 blocks of quota would command a value of \$5.75 million (\$250,000 licence plus \$5.5m for 10 quota blocks).

Information collected suggests that a whole G licence (including 10 blocks) is worth less than the sum of its components—a value in the \$5.25 million range is estimated. This is likely due to the prohibitive cost to acquire the entire asset; raising the required capital is challenging.

**Vessel Value**

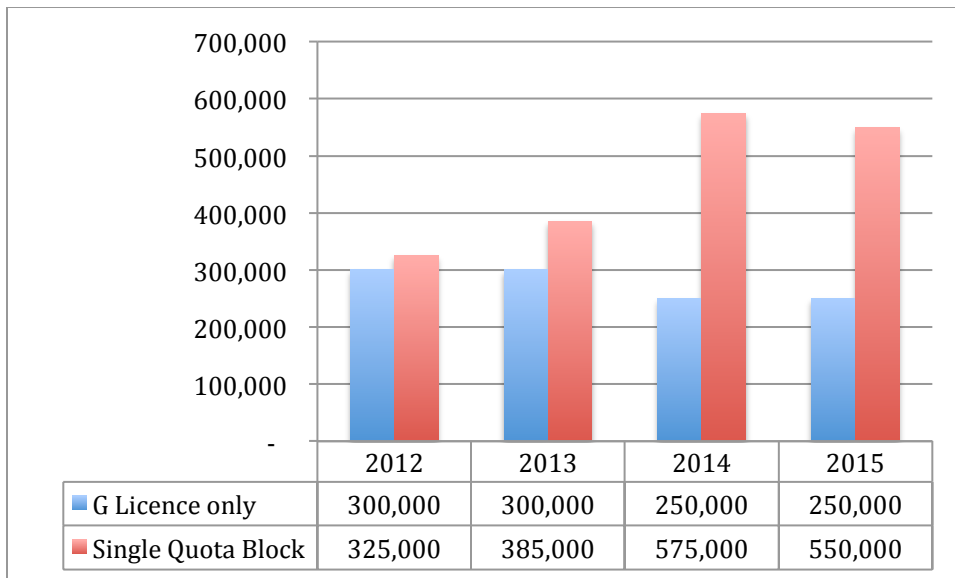
Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only. The number of licensed vessels is drawn from current DFO data (may not be precise).

Geoduck	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	18	108,000	1,944,000
Modern Style	23	264,000	6,072,000
<i>Total</i>	41	195,512	8,016,000

**Licensing Trends**

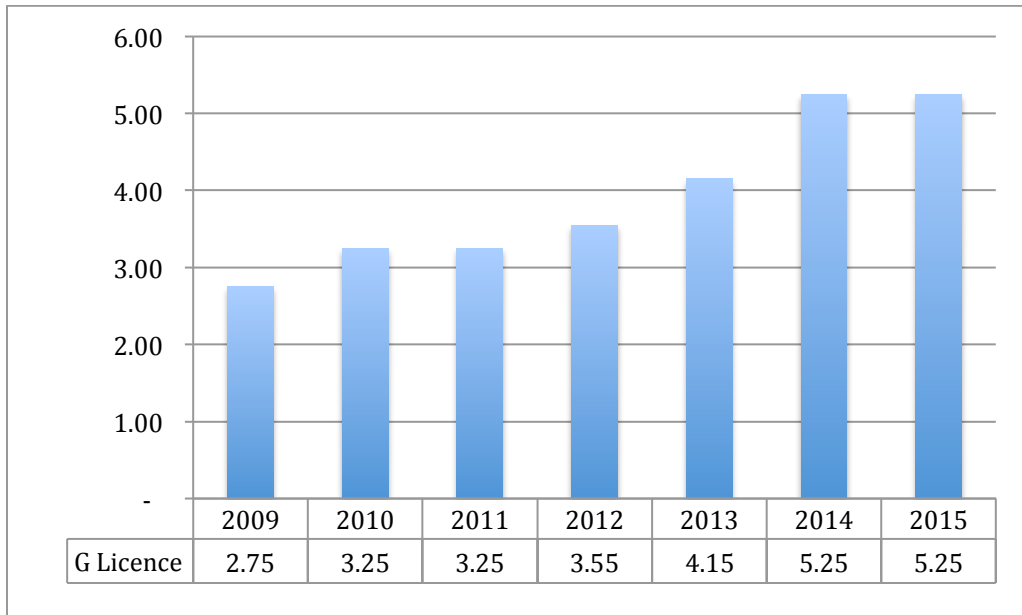
The division of G licences into a licence tab and 10 quota blocks began in 2012. Valuations for the component parts since then are shown below.

**Recent G Licence and Geoduck Quota Block Valuations (Nominal \$s – Not Adjusted for Inflation)**



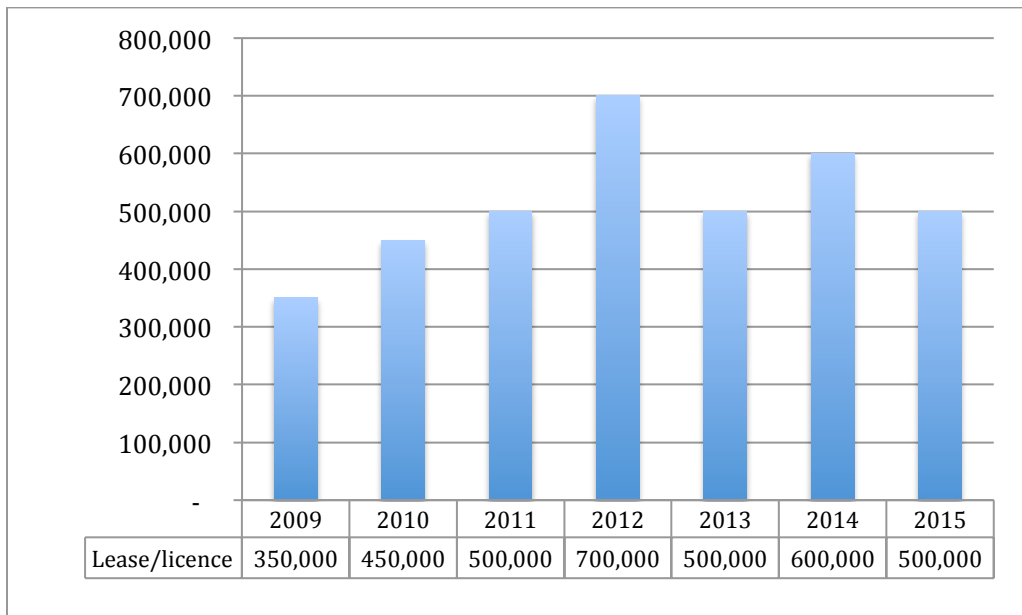
The next graph shows the estimated value for a G licence (pre-2012) or a G licence plus 10 quota blocks (starting 2012):

Recent G Licence Valuations (\$ millions)



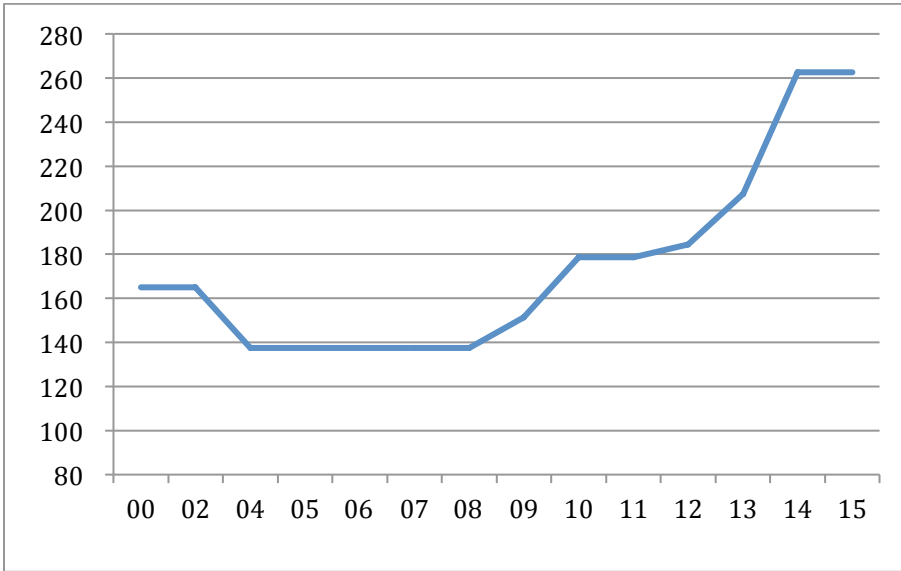
The value trend for geoduck leases is shown below; the values shown are for a full G licence (including 10 quota blocks). The lease for a single quota block would be 1/10<sup>th</sup> of the values shown.

Recent G Licence Lease Rates (\$)

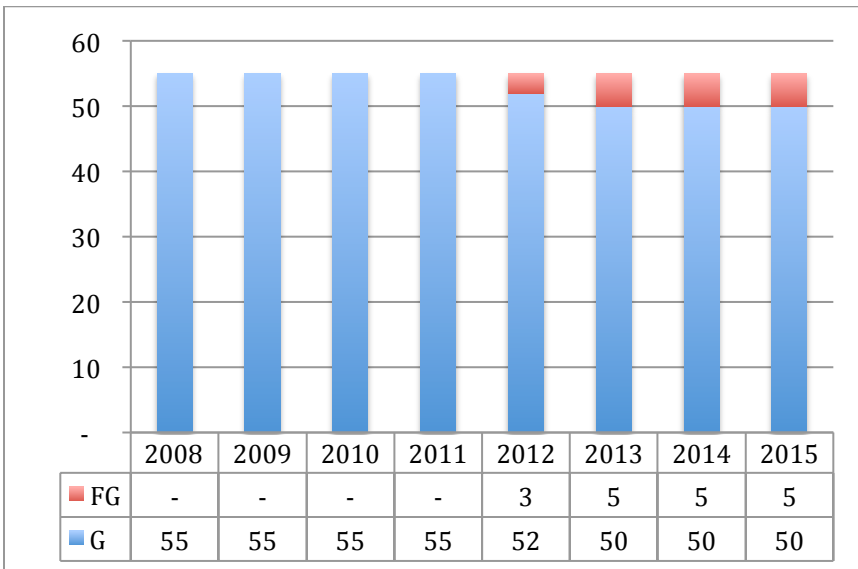


Most leases are based on revenue sharing, and it is very difficult to definitively peg lease rates in this fishery. Licence holders typically earn more than 70% of the landed value of the product.

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

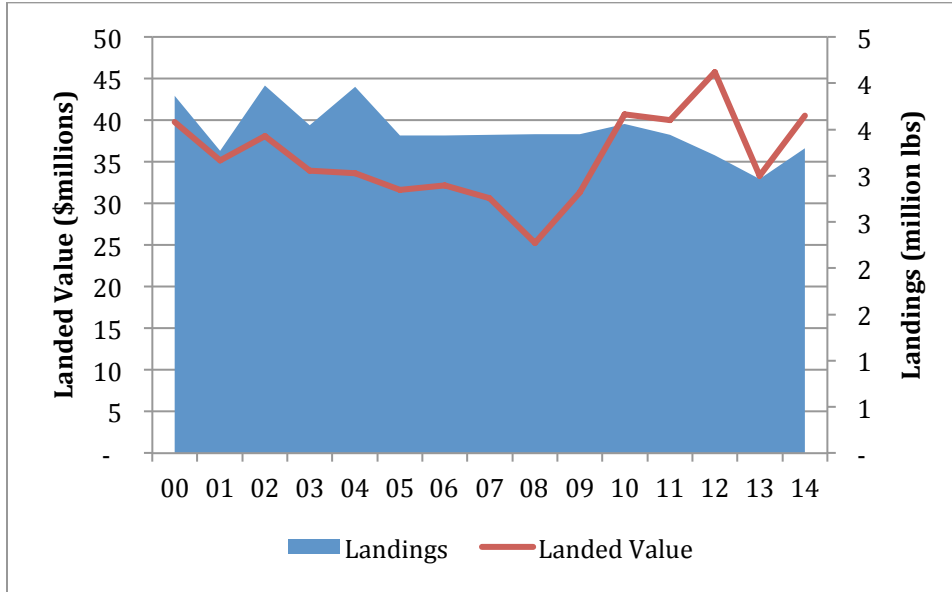


G Licence Counts by Category



## Geoduck Landings & Landed Value Trends

Source: DFO Catch Stats



### Outlook/Commentary

Under the former licensing system, under which individual licences were not divisible, there was a very limited market for the licences, as their high value stifled transactions. With the quota block system dividing each licence into 10 shares, the liquidity of the quota has been improved, and more transactions are occurring. A number of First Nations' commercial fishing enterprises were able to purchase geoduck quota blocks during 2015.

While there are concerns about aquaculture and the impacts of sea otters, and periodic challenges in the Chinese market, the geoduck fishery continues to be profitable, and actively attracting investment capital.

While the TAC for geoduck has been steady for several years, a reduction from 6,000 lbs to 5,600 lbs per quota block was announced for 2016. Future TAC levels are unknown.

## SHELLFISH: Sea Cucumber

### Background to Valuation

General	
Licence Designation	ZD
Nature of Licence	Party-based
# Commercial Licences	84
# Communal Commercial Licences	1
Area licensing?	4 areas
Stacking?	yes
Competitive or Quota fishery?	quota

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 March 31, 2015

Category	# Licences	Value/Licence (\$)	Total Value (\$)
ZD Licences	84	750,000	63,000,000

#### Valuation Comments

As usual, the number of transactions in this closely held, and currently profitable, fishery was low. The estimate of licence value is between \$700,000 and \$800,000.

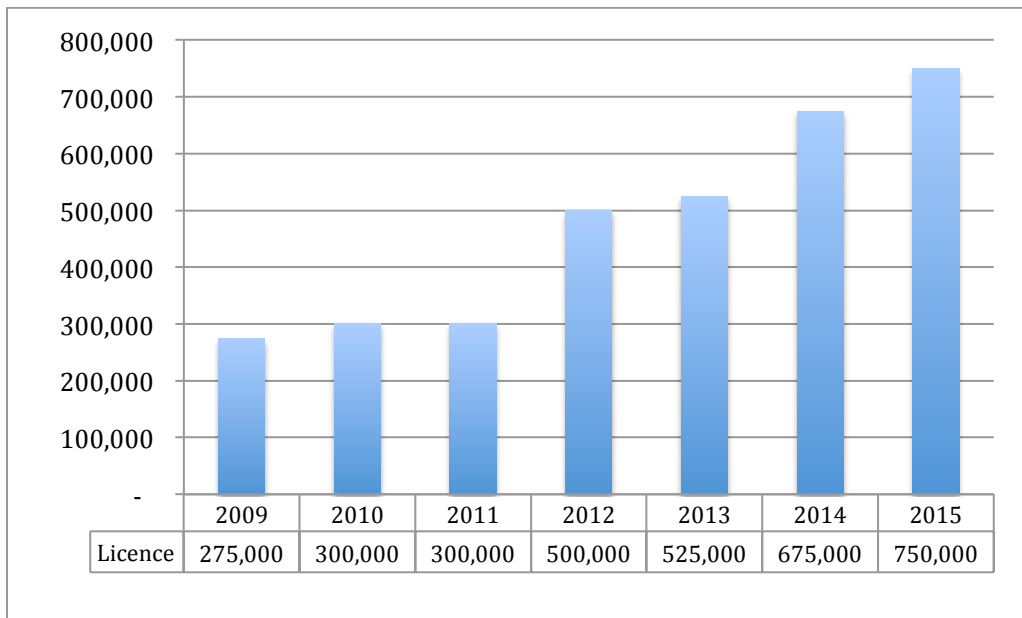
#### Vessel Value

Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only. The number of licensed vessels is drawn from current DFO data (may not be precise).

Sea Cucumber	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	14	108,000	1,512,000
Modern Style	16	264,000	4,224,000
<i>Total</i>	30	191,200	5,736,000

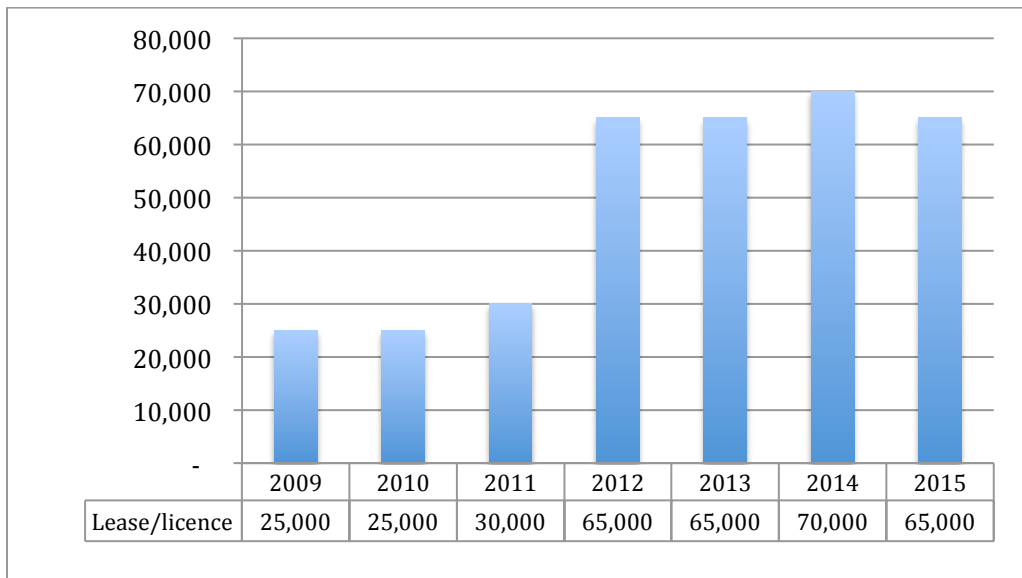
## Licensing Trends

### Recent ZD Licence Valuations (Nominal \$s – Not Adjusted for Inflation)



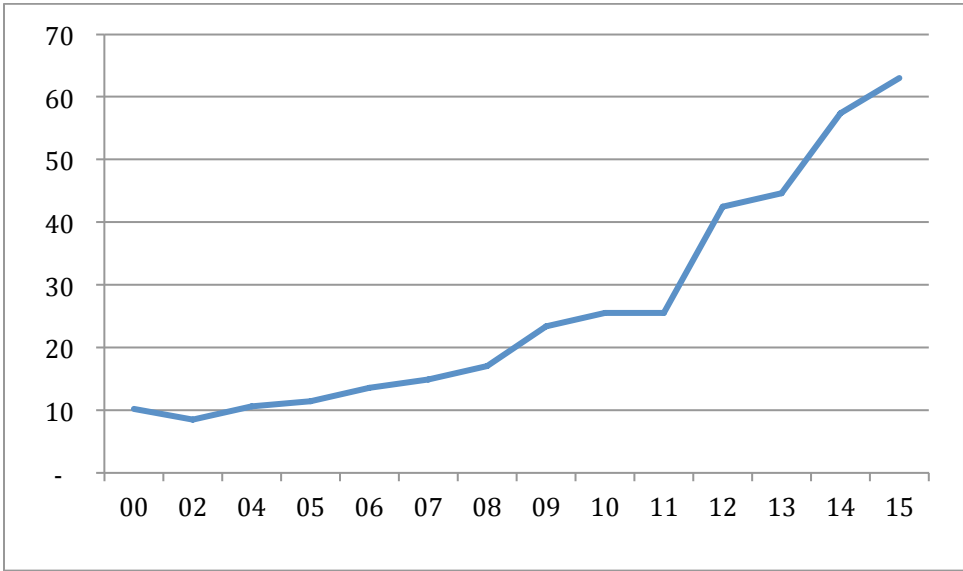
The fishery has seen a steady ascension in licence values reflecting resource health, strong market conditions, and modest harvesting costs.

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

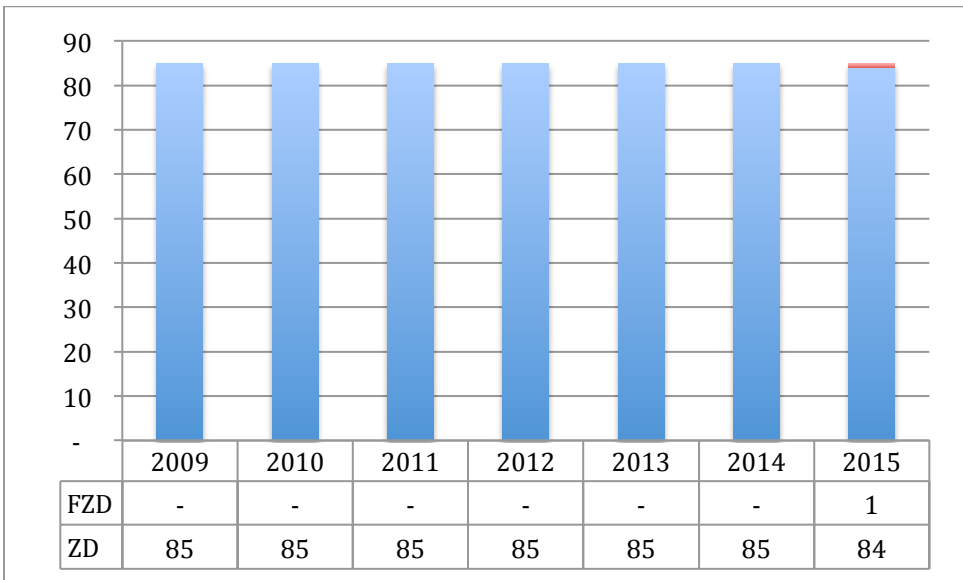




Aggregate Value of ZD Licences (\$ millions by year)



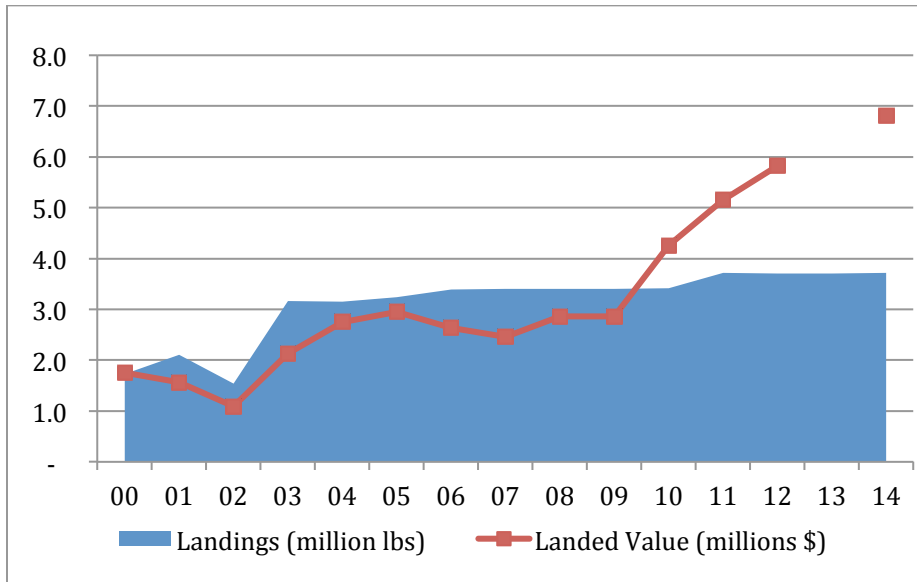
ZD Licence Counts by Category



2015 saw the first relinquishment of a ZD licence.

## Sea Cucumber Landings & Landed Value Trends

Source: DFO Catch Stats



**Note: No data point for 2013 landed value available.**

### Outlook/Commentary

The fishery continues to be strong, with some belief that the stocks are healthy and may in fact be under-exploited.

## SHELLFISH: Red Sea Urchin

### Background to Valuation

General	
Licence Designation	ZC
Nature of Licence	Party-based
# Commercial Licences	80
# Communal Commercial Licences	30
Area licensing?	2 areas
Stacking?	yes
Competitive or Quota fishery?	quota

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 March 31, 2015

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
ZC Licences	80	60,000	4,800,000

#### Valuation Comments

There were very few transactions this year, reflecting improvements in this fishery. Value estimate ranges between \$55,000 and \$70,000.

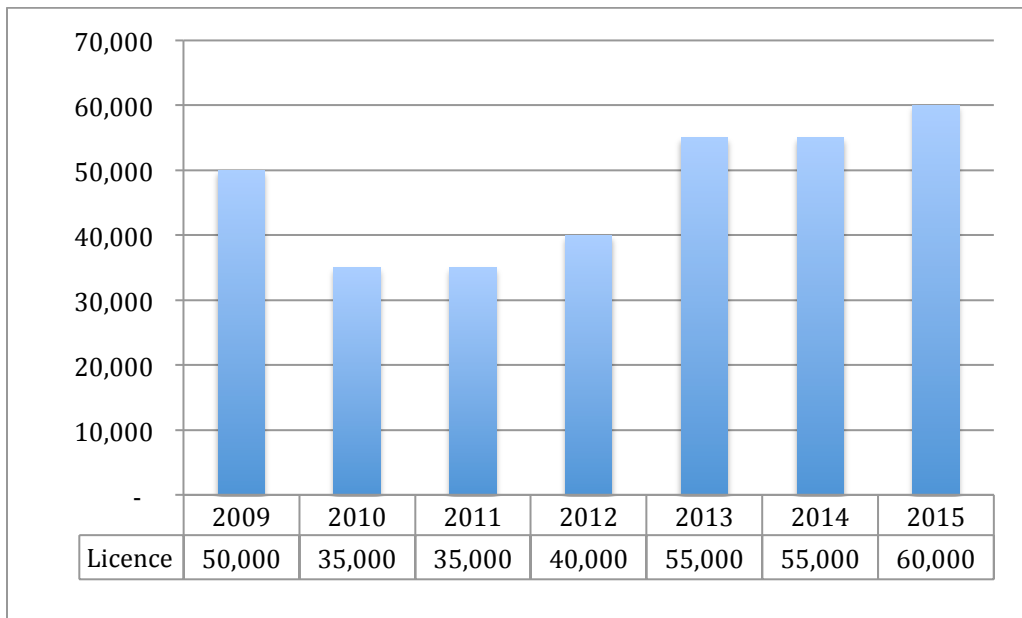
#### Vessel Value

Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only. The number of licensed vessels is drawn from current DFO data (may not be precise).

Red Sea Urchin	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	16	81,000	1,296,000
Modern Style	24	200,000	4,800,000
<i>Total</i>	40	152,400	6,096,000

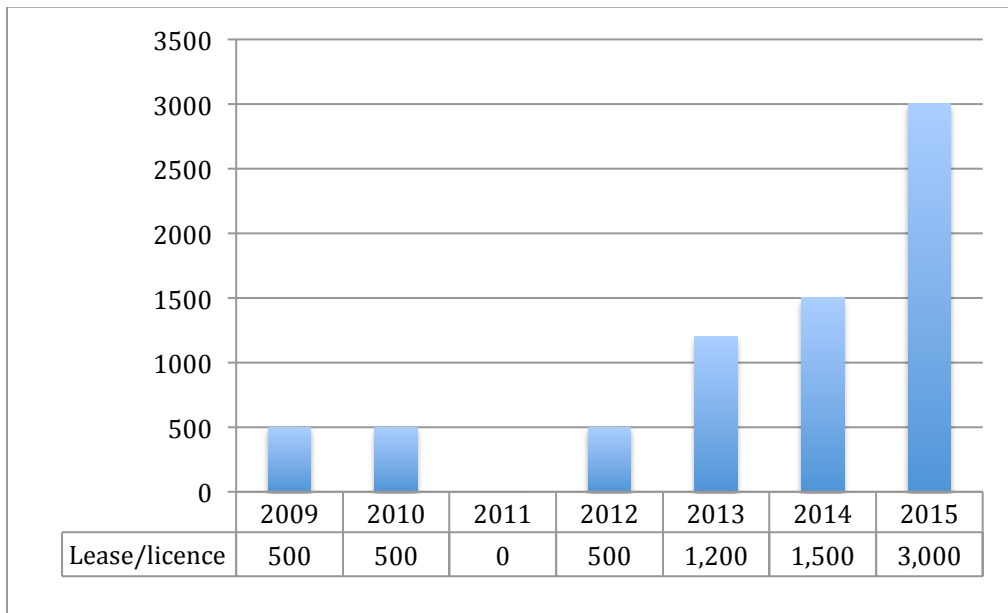
## Licensing Trends

### Recent ZC Licence Valuations (Nominal \$s – Not Adjusted for Inflation)



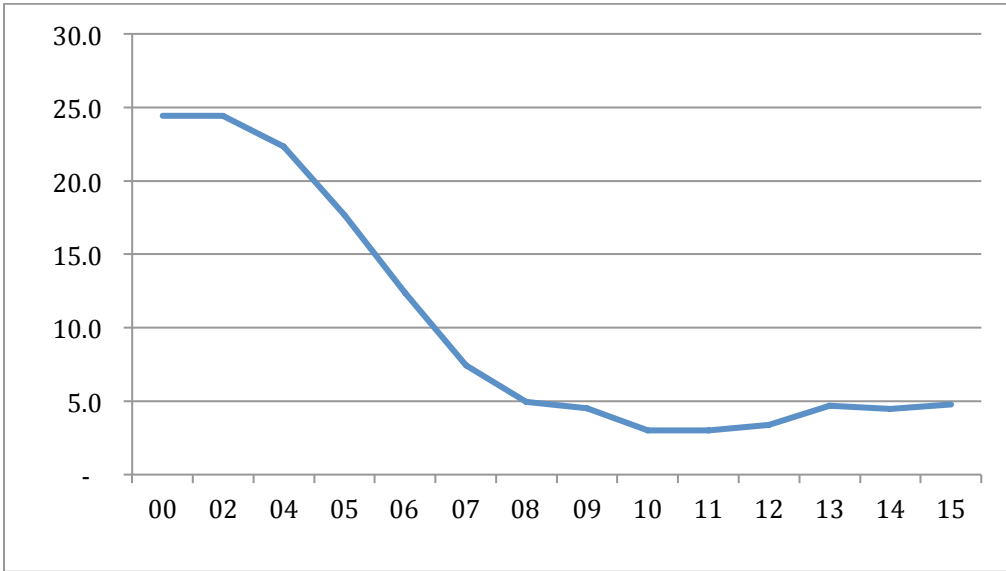
There is modest strengthening in this fishery noted in recent years.

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



Leases ranged from \$2,000 to \$4,000 per licence, with higher returns for northern licences.

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

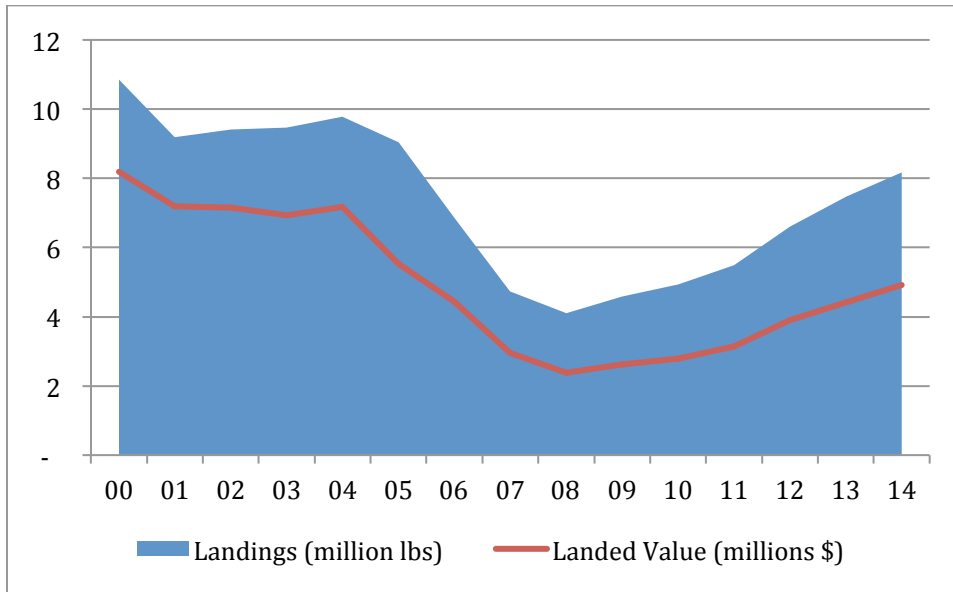


ZC Licence Counts by Category



## Red Sea Urchin Landings & Landed Value Trends

Source: DFO Catch Stats



### Outlook/Commentary

Some of the longstanding market challenges facing the fishery—most notably import of illegal Russian product into Japan—seem to be moving towards resolution, and this fishery is now seeing improved results. The market is stronger, so few licences are being placed on the market, resulting in upward price pressure in this licence category.

## SHELLFISH: Green Sea Urchin

### Background to Valuation

General	
Licence Designation	ZA
Nature of Licence	Party-based
# Commercial Licences	48
# Communal Commercial Licences	1
Area licensing?	yes
Stacking?	yes
Competitive or Quota fishery?	quota

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 March 31, 2015

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

#### Valuation Comments

There was limited transactions activity during the valuation period.

The range of licence values is estimated at \$25,000 to \$50,000 per licence. Estimates at the upper end of the range are higher than last year, reflecting growing confidence in this fishery.

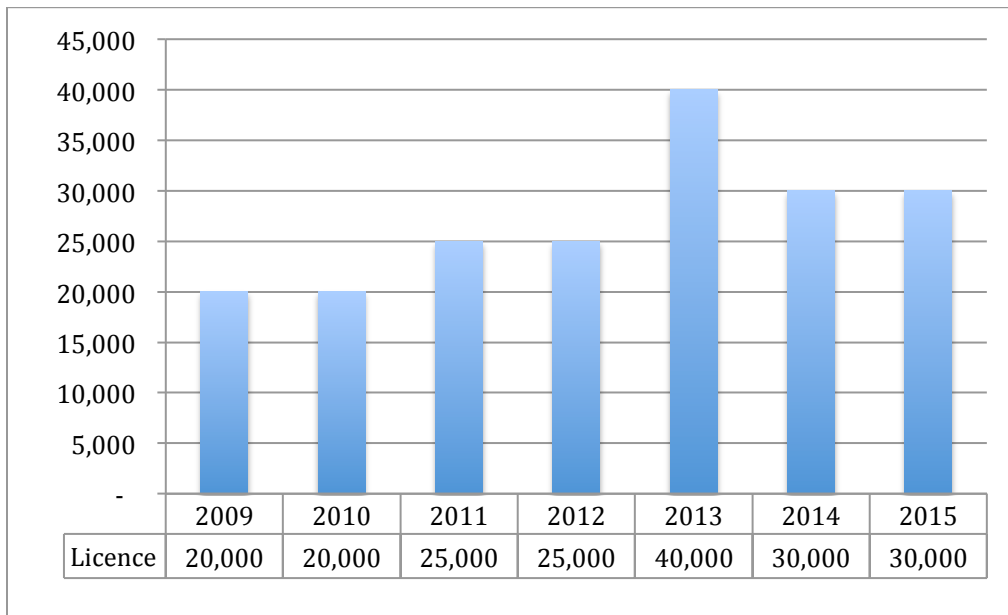
### Vessel Value

Vessel counts exclude F licences. Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only. The number of licensed vessels is drawn from current DFO data (may not be precise).

Green Sea Urchin	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	5	81,000	405,000
Modern Style	7	200,000	1,400,000
<i>Total</i>	12	150,417	1,805,000

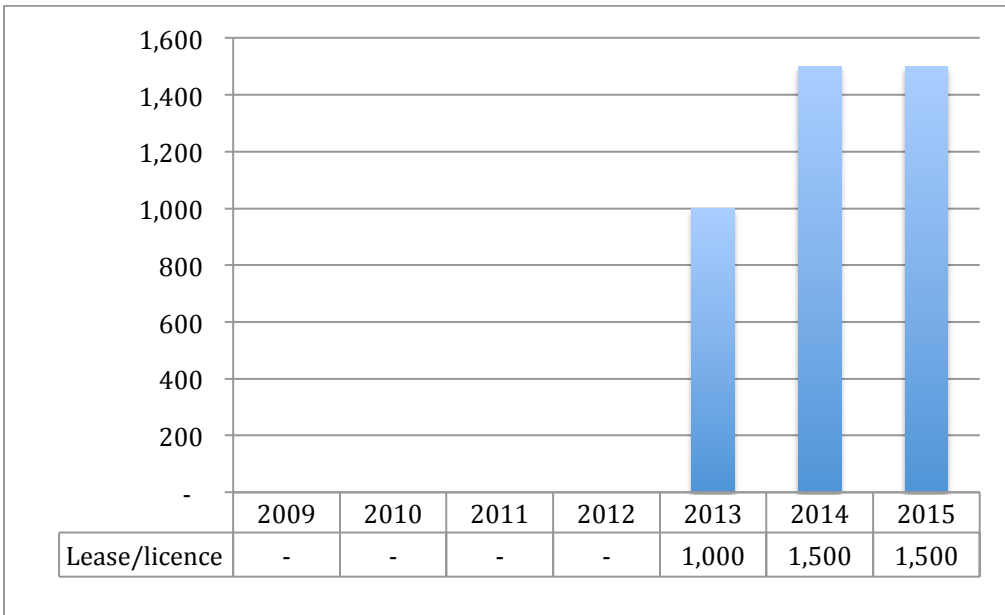
### Licensing Trends

Recent ZA Licence Valuations (*Nominal \$s – Not Adjusted for Inflation*)



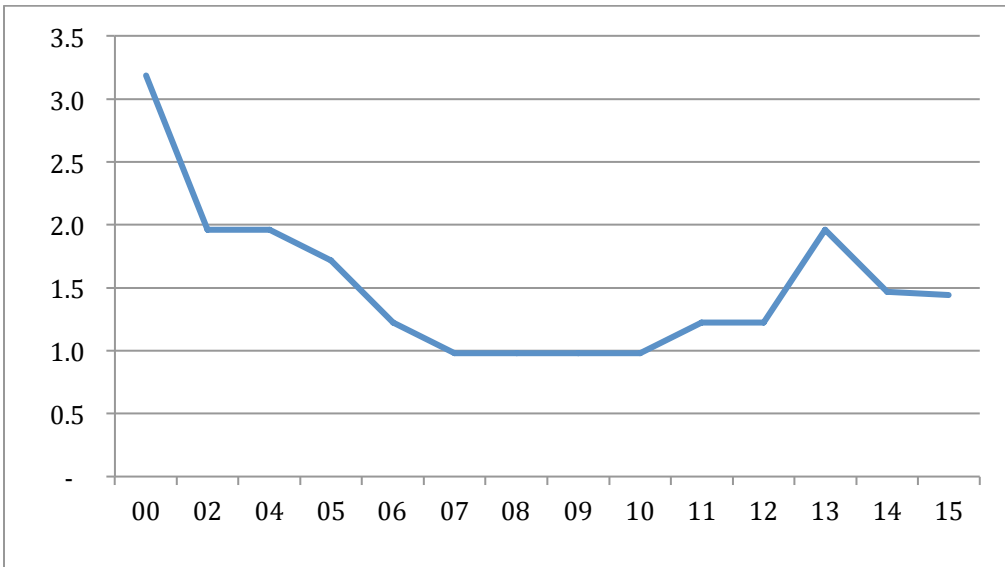


Recent ZA Licence Lease Rates (\$)

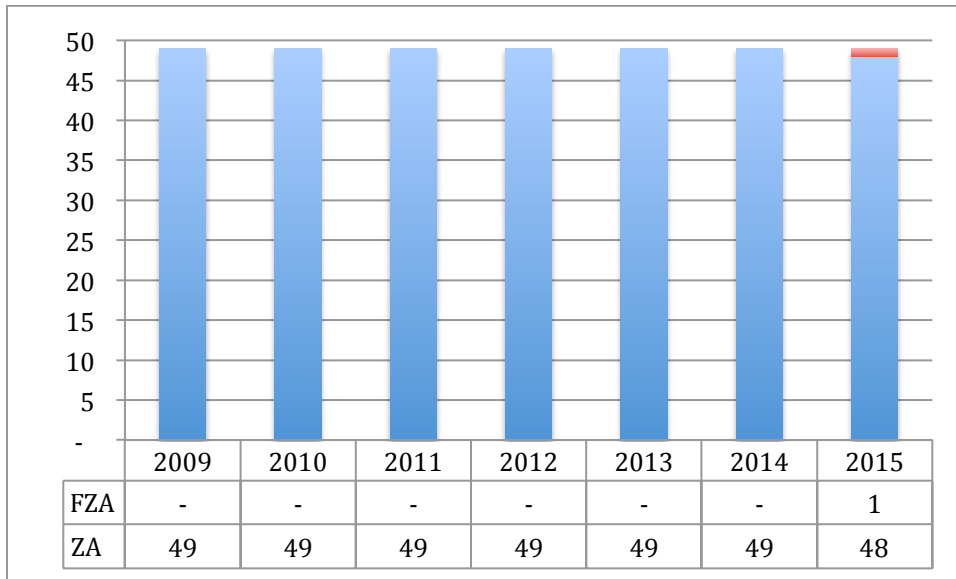


Leases ranged from nil to \$1,500 per licence.

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



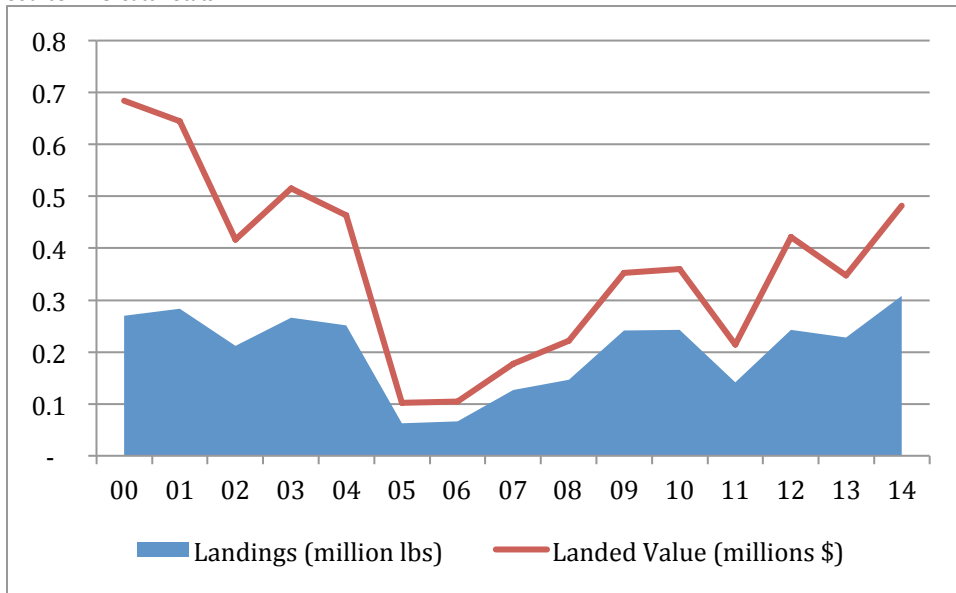
Licence Counts by Category



2015 saw the first relinquishment of a ZA licence.

Green Sea Urchin Landings & Landed Value Trends

Source: DFO Catch Stats



Outlook/Commentary

To some extent, circumstances in this fishery mirror those in the red sea urchin fishery.

## SHELLFISH: Euphausiid

### Background to Valuation

General	
Licence Designation	ZF
Nature of Licence	Party-based
# Commercial Licences	16
# Communal Commercial Licences	1
Area licensing?	no
Stacking?	no
Competitive or Quota fishery?	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	Low

### Current Valuation

#### Licence Value at March 31, 2015

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

#### Valuation Comments

No transactions activity for the year. Anecdotal information indicates values in the \$40,000 to \$50,000 range

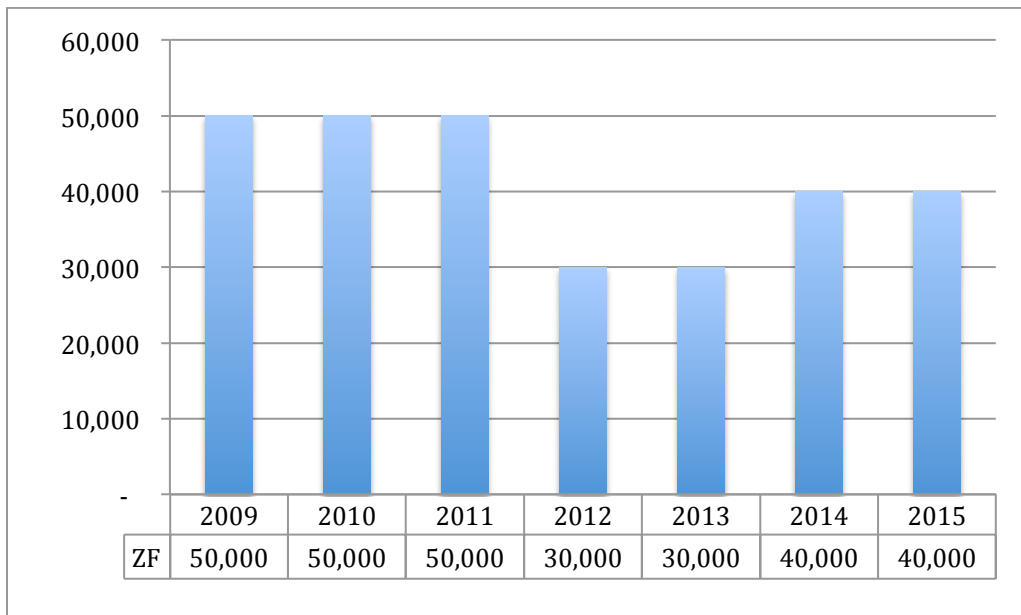
### Vessel Value

Vessel counts exclude F licences. Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only. The number of licensed vessels is drawn from current DFO data (may not be precise).

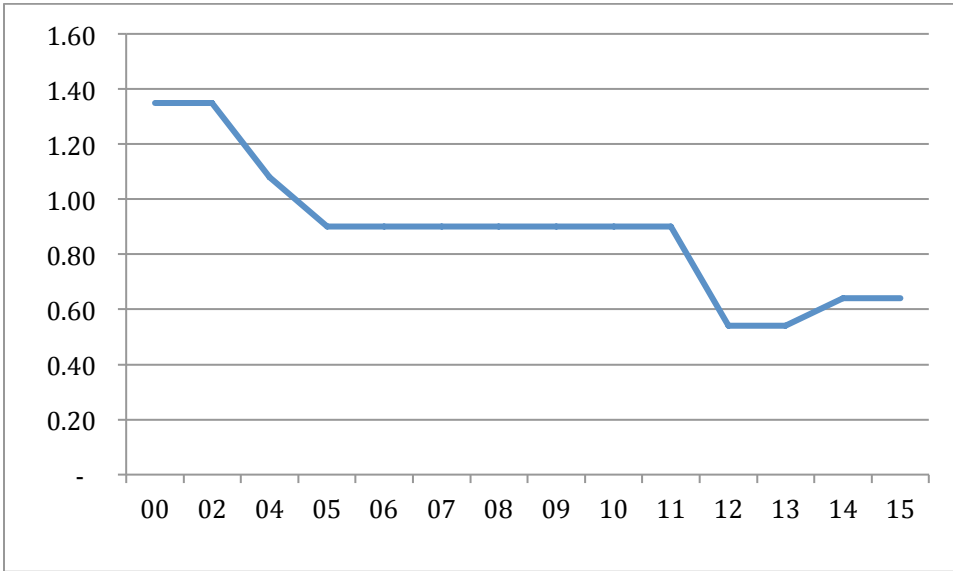
Euphausiid	# Vessels	Avg Vessel Value	Aggregate Value
Classic Style	6	184,000	1,104,000
Modern Style	10	646,000	6,460,000
<i>Total</i>	16	472,750	7,564,000

### Licensing Trends

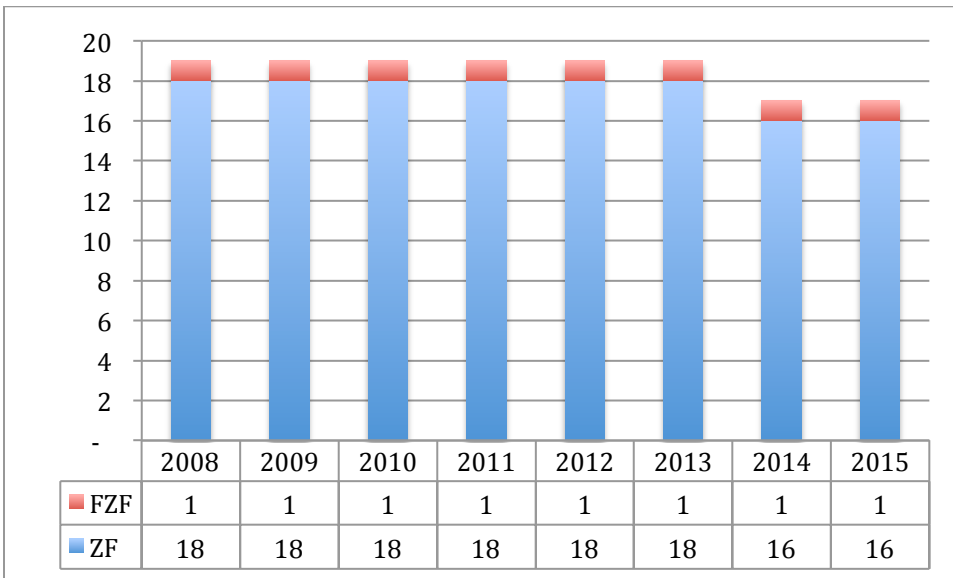
Recent ZF Licence Valuations (*Nominal \$s – Not Adjusted for Inflation*)



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



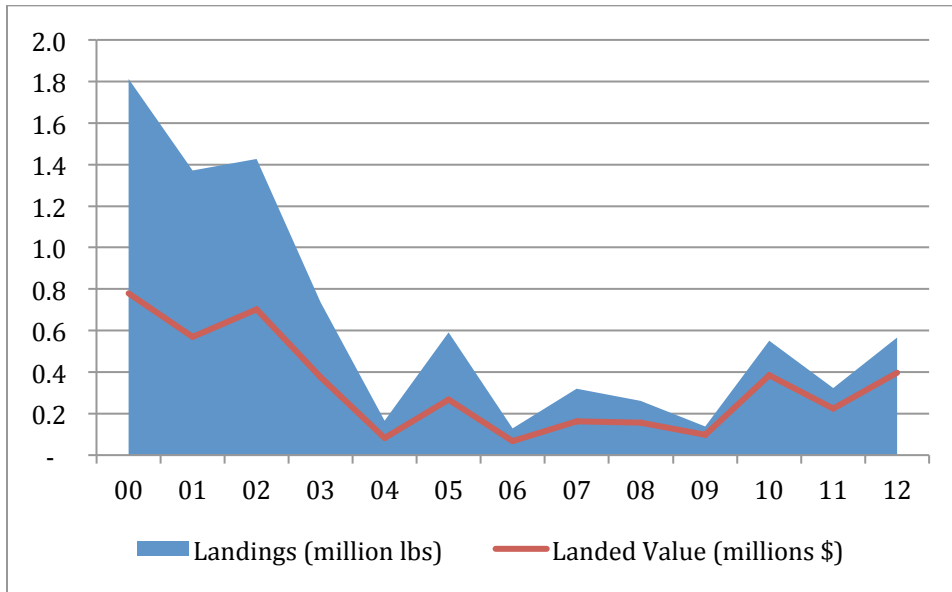
Licence Counts by Category



Two licences were retired in 2013, resulting in the drop from 18 to 16 ZF licences.

## Euphausiid Landings & Landed Value Trends

Source: DFO Catch Stats



No updated landings or landed value data have been available from DFO Catch Stats since 2012.

### Outlook/Commentary

This is a very small-scale fishery with sporadic participation and marginal returns to harvesters.

No change in the outlook for the fishery was reported by informants.

## Schedule II Species

### Background to Valuation

General	
Licence Designation	C
Nature of Licence	Vessel-based
# Commercial Licences	14
# Communal Commercial Licences	367
Area licensing?	no
Stacking?	no
Competitive or Quota fishery?	various

Valuation Parameters	
Licence	per foot
Quota	n/a
Vessels	no
Amount of trading activity in category this year	Med
# Transactions underlying valuation	≈10
Confidence in current year valuations	Low

### Current Valuation

#### Licence Value at March 31, 2015

Category	# Licences	Value/ Licence Ft (\$)	Total Value (\$)
C Licences	367	300	3,743,400

#### Valuation Comments

Transactions range from \$200 to \$600 per foot.

These licences are sometimes acquired and then relinquished to allow un-marrying of vessel-based licences. As the pool of C licences declines, there may be upward pressure on prices.

No valuation information for leasing F category C licences was uncovered.

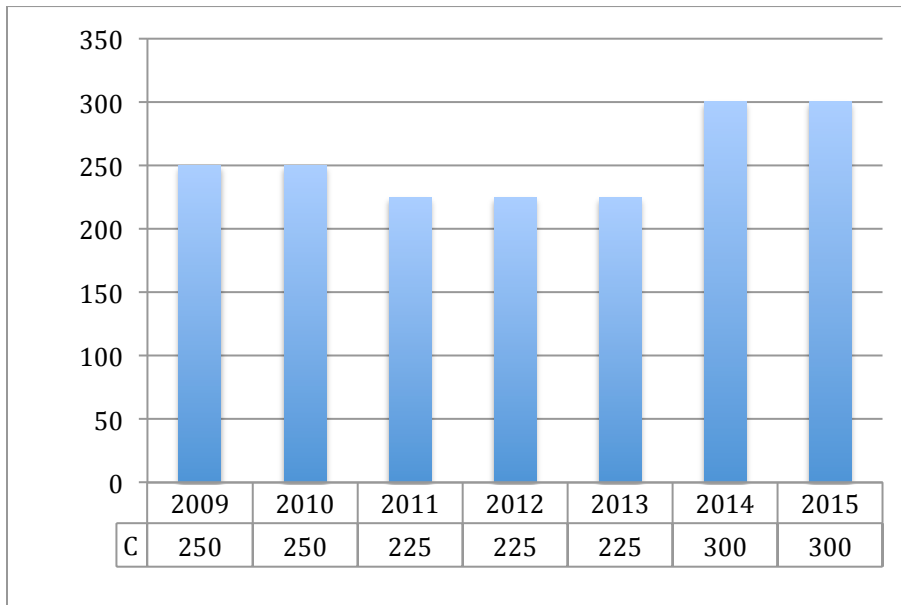
**Vessel Value**

Vessel counts exclude F licences. Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only.

Schedule II	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	237	40,000	9,480,000
Modern Style	127	143,000	18,161,000
<i>Total</i>	364	75,937	27,641,000

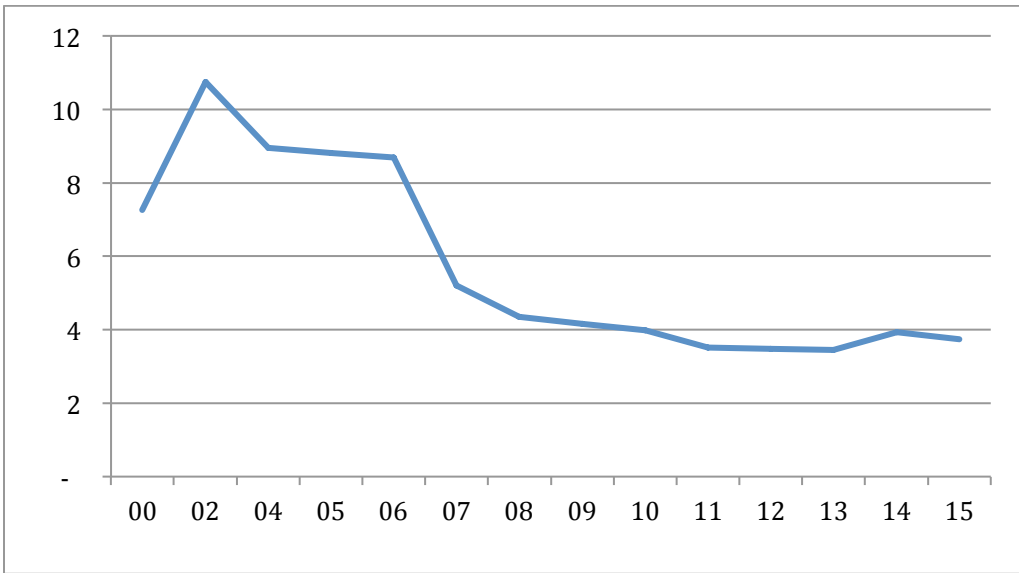
**Licensing Trends**

*Recent C Licence Valuations (Nominal \$s per foot – Not Adjusted for Inflation)*



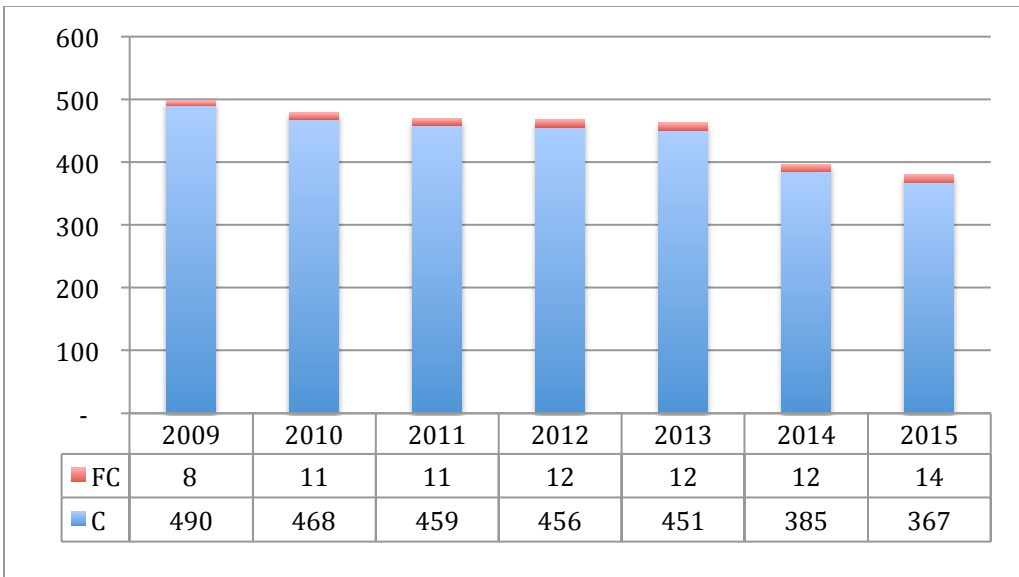


**Aggregate Value of C Licences (\$ millions by year)**



The aggregate value of licences in this category has declined appreciably, driven by both falling unit licence prices, and a diminishing pool of C licences (caused by licences being extinguished).

**Licence Counts by Category**



**Landings & Landed Value Trends**

No information is provided, since a wide range of species may be landed under Schedule II licences.

**Outlook/Commentary**

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 March 31, 2015

Fishery Grouping	Fishery	Licence Des.	# Licences	Average Licence Value (\$)	Aggregate Licence Value (\$)	Aggregate Quota Value (\$)	Total Licence & Quota Value (\$)
Salmon	Seine	AS	210	418,571	87,900,000	-	87,900,000
	Gillnet	AG	818	54,315	44,430,000	-	44,430,000
	Troll	AT	350	124,714	43,650,000	-	43,650,000
Pelagics	Herring - Roe Seine	HS	241	49,025	11,815,000	-	11,815,000
	Herring - Roe Gillnet	HG	999	23,734	23,710,000	-	23,710,000
	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	42,800	14,680,400	363,354,488	378,034,888
	Sablefish	K	41	250,000	10,250,000	189,847,413	200,097,413
	Groundfish Trawl	T	135	57,960	7,824,600	217,515,757	225,340,357
	Rockfish Inside	ZN	54	35,000	1,890,000	-	1,890,000
	Rockfish Outside	ZN	158	175,000	27,650,000	-	27,650,000
	Lingcod Hook & Line		-	-	-	20,599,782	20,599,782
	Dogfish Hook & Line		-	-	-	1,679,023	1,679,023
Shellfish	Prawn	W	193	734,000	141,662,000	-	141,662,000
	Crab	R	189	713,000	134,757,000	-	134,757,000
	Shrimp	S	215	41,900	9,008,500	-	9,008,500
	Geoduck	G	50	5,750,000	287,500,000	-	287,500,000
	Sea Cucumber	ZD	84	750,000	63,000,000	-	63,000,000
	Red Sea Urchin	ZC	80	60,000	4,800,000	-	4,800,000
	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	367	10,200	3,743,400	-	3,743,400
					926,300,900	792,996,463	1,719,297,363