

West Coast Fishing Fleet:

Analysis of Commercial Fishing Licence, Quota, and Vessel Values

As at March 31, 2010

Prepared for Fisheries and Oceans Canada, Pacific Region

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Introduction

This report offers assessments of licence, quota, lease, and vessel values as of March 31, 2010 for commercial fisheries in B.C. 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 value levels in the commercial fishery. The depth and quality of data upon which valuations are based varies by fishery – a few fisheries are active, with ample vessel and licence transactions, while others feature few or no transactions per year. 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 less open-market transaction activity 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 by-fishery analysis of current and historical licence, quota, lease, and vessel values. The findings of this report are offered with the objective to provide information across fisheries on a consistent basis. The report is designed to allow the user to gain a useful snapshot of the current situation and trends prevailing in each fishery.

The contractor cautions that valuations contained in this study, while reflective of March 31, 2010 licence, quota, and vessel values, should not provide the valuation rationale for any purchase/sale transactions that may 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, 2010

The market capitalization of commercial licences and quota in the BC fishery at March 31, 2010 is summarized as follows (excludes F licences and relinquished quota in the halibut and sablefish fisheries):

Fishery Grouping	Licence & Quota Value (\$million)	% Value
Salmon	125	10%
Herring	120	9%
Groundfish	597	47%
Shellfish	434	34%
Schedule II	4	0%
Total	1,279	100%

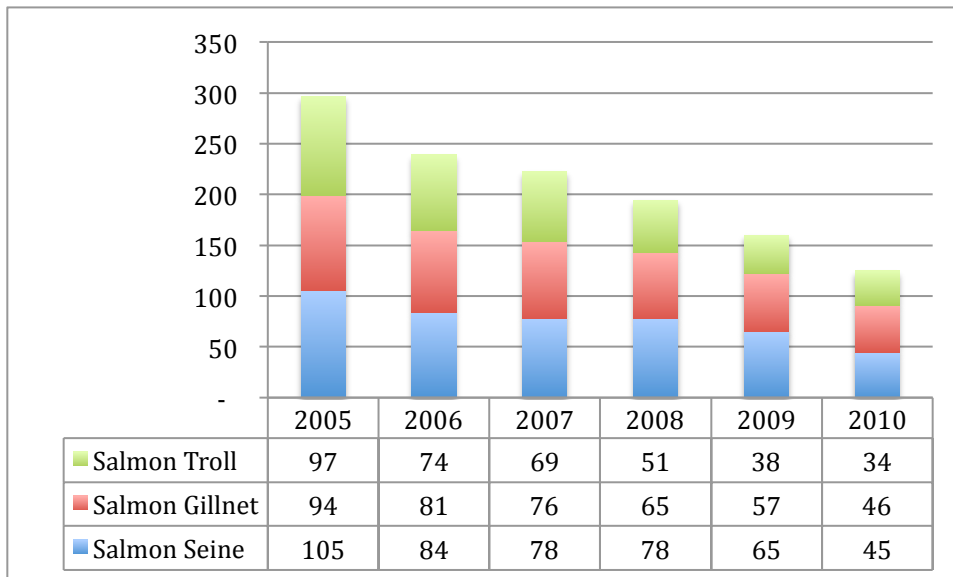
Further details for each fishery category are provided below (in all charts, values are un-adjusted for inflation):

Salmon

The annual decline in salmon licence values seen in recent years continued in early 2010, influenced by results in the 2009 fishery. The 2009 season was dominated by the failure of the Fraser sockeye run—a strong prediction yielded to a record-poor return offering no commercial fishing opportunities. In the north coast, the seine fleet garnered a strong pink harvest (over 8 million pieces). Troll results are driven largely by the Chinook harvest: catches were up appreciably in area F, but down in area G.

Licence values softened for each gear type. PICFI was an active purchaser of licences.

Aggregate Salmon Licence Value (\$ millions)



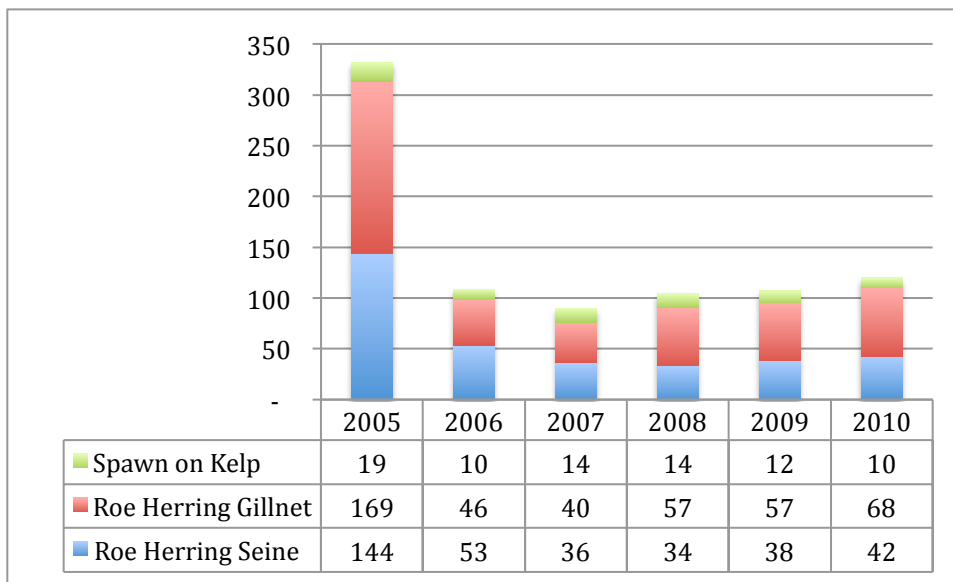
Herring

Roe herring licences were modestly firmer at the valuation date than in the prior year. Low catch levels are contributing to slightly firmer values for roe, and reasonable lease rates contribute to profitable operations. The scale of the fishery remains small relative to its former stature.

Spawn on kelp economics remain challenging for many operations; some licences were fully utilized and earned satisfactory returns, while others were only partially utilized (or un-utilized). Difficulty accessing stocks, poor market prices, and high operating costs contribute to uneven results.

Gillnet is the only herring category with significant open-market activity.

Aggregate Herring Licence Value (\$ millions)



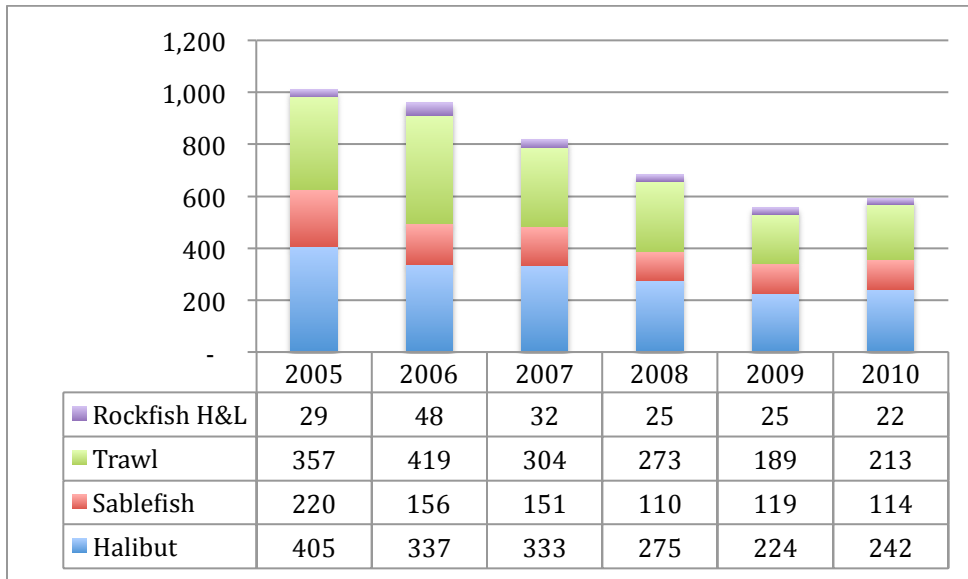
Groundfish

Aggregate groundfish licence and quota values rose slightly in 2010, reversing a several-year downward trend. For both halibut and sablefish, quota values firmed and the TACs stabilized. Hake values improved in the trawl fishery, while groundfish quota values remained weak.

The pilot integration program became permanent in early 2010, though transferability of rockfish (ZN), dogfish, and lingcod IVQ remained temporary.

The frequency of open-market transactions is declining as holdings become more consolidated in the IVQ fisheries.

Aggregate Groundfish Licence and Quota Value (\$ millions)



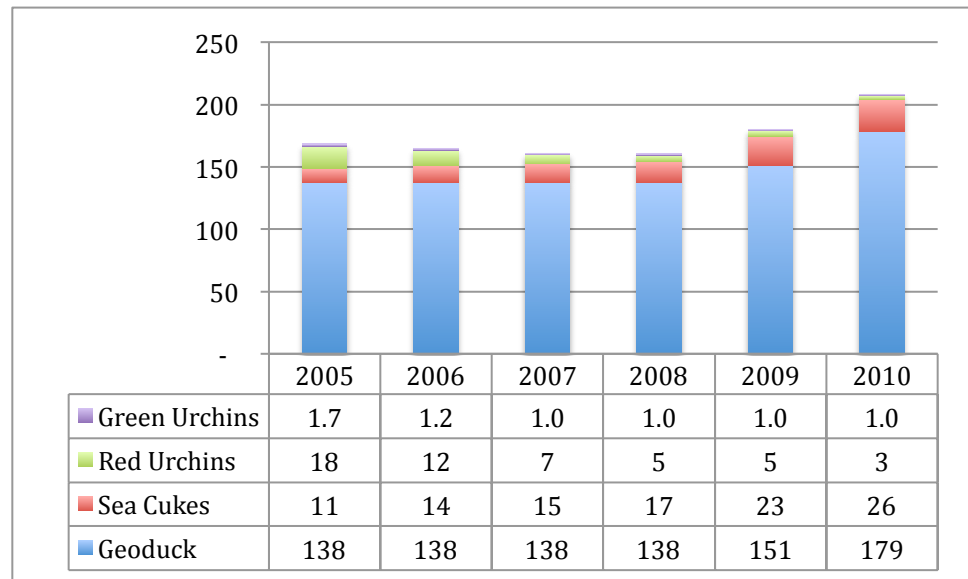
Shellfish

The shellfish category, including the dive species (geoduck, sea cucumber, and red and green sea urchins), and trap/trawl gear (prawn, shrimp, crab, and euphausiid) showed continued stability for the valuation period.

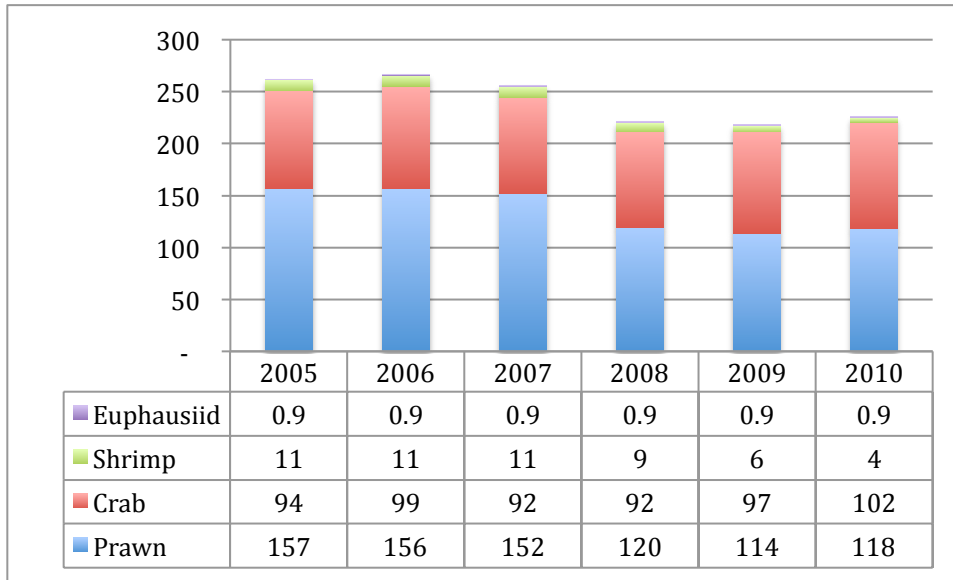
Geoduck, sea cucumber, prawn, and crab remained essentially strong, while red/green urchins shrimp, and euphausiid remained weak.

The geoduck valuation rose from prior years, related not to open market transactions (there were none), but rather attributable to strong economic conditions prevailing in the fishery.

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

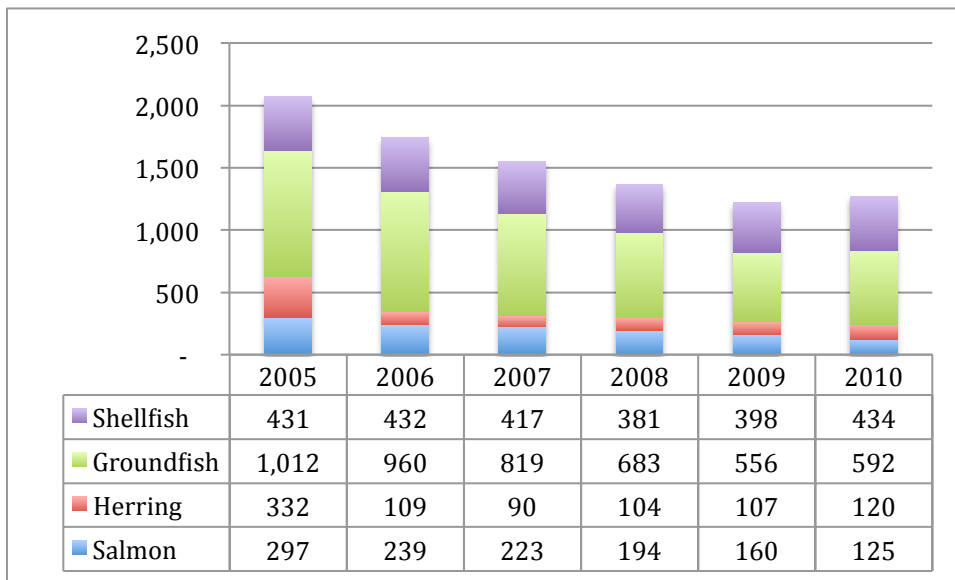


Shellfish Trap/Trawl Fisheries – Aggregate Licence Value (\$ millions)



All Fisheries – Aggregate Licence Value (\$millions)

A consistently downward valuation trend over the past several years was reversed marginally in 2010.



In addition to fish prices and catch levels, BC’s commercial fisheries are strongly influenced by global economic conditions, the relative strength of Canada’s dollar compared to other currencies (particularly the USA dollar), and fuel prices. Macro-economic conditions improved somewhat compared to those seen in 2009.

Methodology

Valuations Performed

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

Fishery	Gear	VALUATION				
		Average Vessel Value	Average Licence Value		Quota Value	Lease Value
			Full Fee	Reduced Fee		
Salmon	Seine	X	X	X		
	Gillnet	X	X	X		
	Troll	X	X	X		
Herring – Roe	Seine	X	X	X		X
	Gillnet	X	X	X		X
Herring – Spawn on Kelp			X			
Halibut	Longline	X	X		X	X
Sablefish	Longline / Trap	X	X		X	X
Geoduck / Horseclam	Dive	X	X			X
Shrimp	Trawl	X	X			
Prawn	Trap	X	X			X
Groundfish	Trawl	X	X		X	X
Crab	Trap	X	X			
Sea Cucumber	Dive	X	X			X
Red Sea Urchin	Dive	X	X			X
Green Sea Urchin	Dive	X	X			X
Rockfish	Hook & Line	X	X			X
Schedule II Species		X	X			
Euphausiid	Trawl	X	X			

Valuation Methodology

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

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 on a per-pound basis.

The valuation criteria applied to licence/quota valuation will be noted for each fishery (eg. value per licence, per foot, per pound of quota).

Vessel Stratification

Prior valuation studies (pre-2009) used a complex vessel stratification approach whereby a vessel in each fishery was assigned to one of ten classifications (see following table):

Vessel Type	Classic Style			Modern Style	
	Wood	Aluminium / Fibreglass	Steel	Aluminium / Fibreglass	Steel
Inside Waters / Smaller Vessel					
Outside Waters / Larger Vessel					

While sound in theory, this stratification approach relied on aging source data and a host of assumptions that suggested a higher level of valuation precision than could be delivered. Given a lack of current source data, a simplified vessel valuation approach is being adopted for this report, described as follows:

1. The number of licensed vessels in each commercial category is identified (source: Commercial Licence Eligibility Counts report for period April 1, 2009 to March 31, 2010).
2. Vessels are apportioned between “classic” and “modern” style.

Classic vessels are of older design (typically pre-1980’s), 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 deemed to be those incorporating non-wood material with progressive design and enhanced capabilities, such as those mentioned above (speed, power, refrigeration, capacity, etc.). A surge in vessel construction occurred through the 1980’s 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 2000’s.

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			

Vessel Stratification Intent

The vessel stratification approach used in this study reflects the absence of a current database on commercial vessel attributes (for instance 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 craft in a particular fishery.

Information Collection

This report follows a similar valuation methodology to that applied in prior reports. Valuations are based upon a variety of information, including:

- First-hand reports of specific transactions (“best” source);
- Anecdotal reports of general price levels or trends (expert opinion);
- Consideration of vessel and licence “listings” (e.g. 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 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 found in the four prior reports, are presented. Values in these graphs are in nominal terms (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

PACIFIC FLEET LICENCE, QUOTA, AND VESSEL VALUATION: AT MARCH 31, 2010

Fisheries Management Plans, or the Pacific Licensing web page. Links to these information sources:

- IFMP's: <http://www-ops2.pac.dfo-mpo.gc.ca/xnet/content/MPLANS/MPlans.htm>
- DFO Licensing: <http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/index-eng.htm>

Salmon Seine

General Description

<i>Licence Designation</i>	AS
<i>Nature of Licence</i>	Vessel based – vessel owner may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	228
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	48 (FAS designation – Party based)
<i>Licensing/Management Framework</i>	Area Licensing; vessel owner must designate one of two areas, north or south (A and B); periodic area re-selection (2006 was last re-selection). Stacking allowed; currently 107 Area A licences and 169 Area B (includes F licences).
<i>Additional Information</i>	Competitive fishery. Licences have no associated quota. Vessel-based licence virtually precludes licence leasing. Reduced fee licences may only be held on a vessel where the vessel owner is an aboriginal individual. Vessel-based licence allows harvest of Schedule II species and transporting (packing).

Valuation Parameters

Valuations performed:	AS licence Vessels
Amount of trading activity underlying valuation:	Very low
Confidence in valuation:	Low

With very little open-market activity in this category, a confident valuation cannot be offered.

Current Valuation

Licence Value at March 31, 2010

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
Full Fee	210	200,000	42,000,000
Reduced Fee	18	160,000	2,880,000
All AS	228	196,842	44,880,000

Valuation Comments

- Full fee valuation pegged at \$200,000. Estimated range: \$175,000-225,000.
- The current valuation continues a downward trend in licence values.
- The failure of the 2009 Fraser sockeye fishery cast doubt about future sockeye returns. Expectations for a strong 2010 Fraser sockeye return did not buoy the market.
- Little or no valuation difference related to area (north vs. south) noted.
- This is a depressed licence category with little open-market activity.
- F licences (48 licences in 2010) are sometimes leased, with leases at nominal values (often, sharing arrangements).

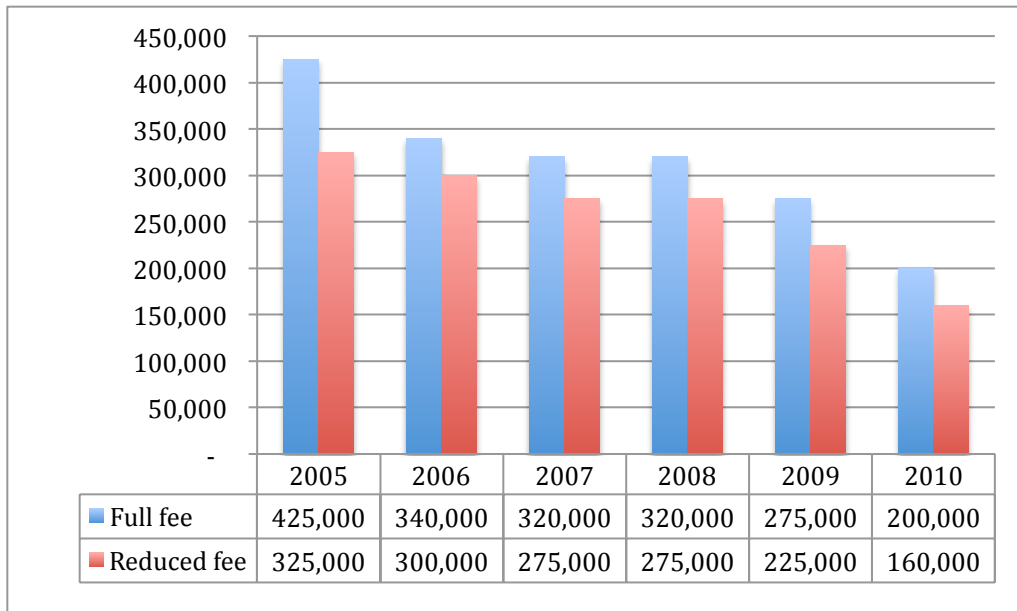
Vessel Value

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.

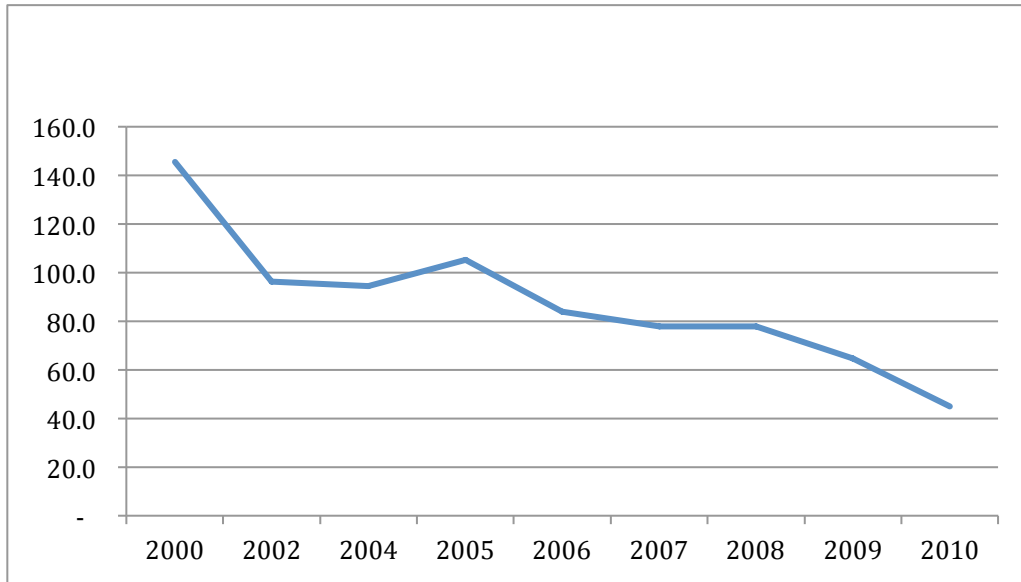
Salmon Seine	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	68	143,750	9,775,000
Modern Style	103	566,667	58,366,667
<i>Total</i>	171	398,489	68,141,667

Licensing Trends

Recent AS Licence Valuations (\$)

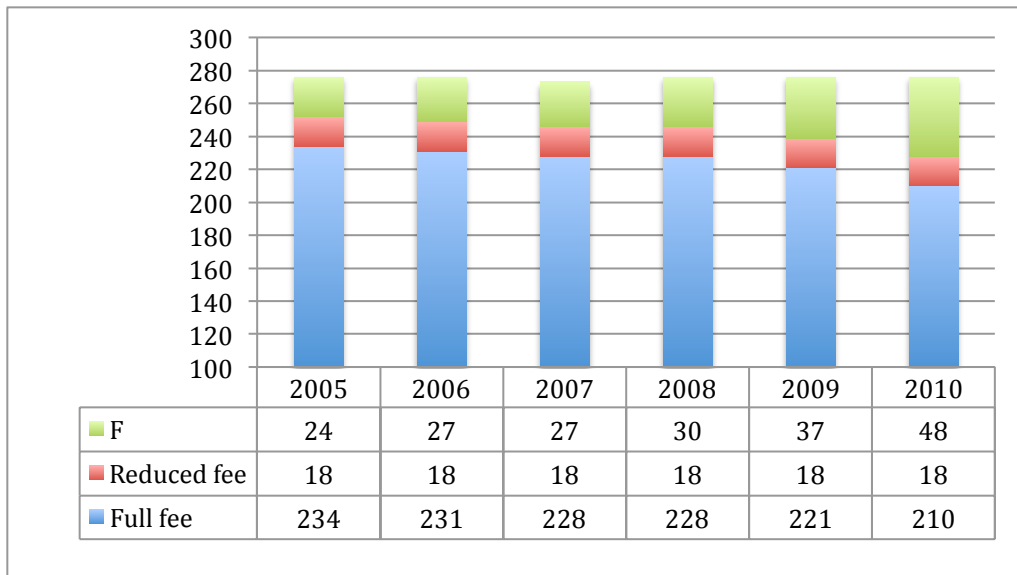


Aggregate Value of AS Licences (\$millions by year)



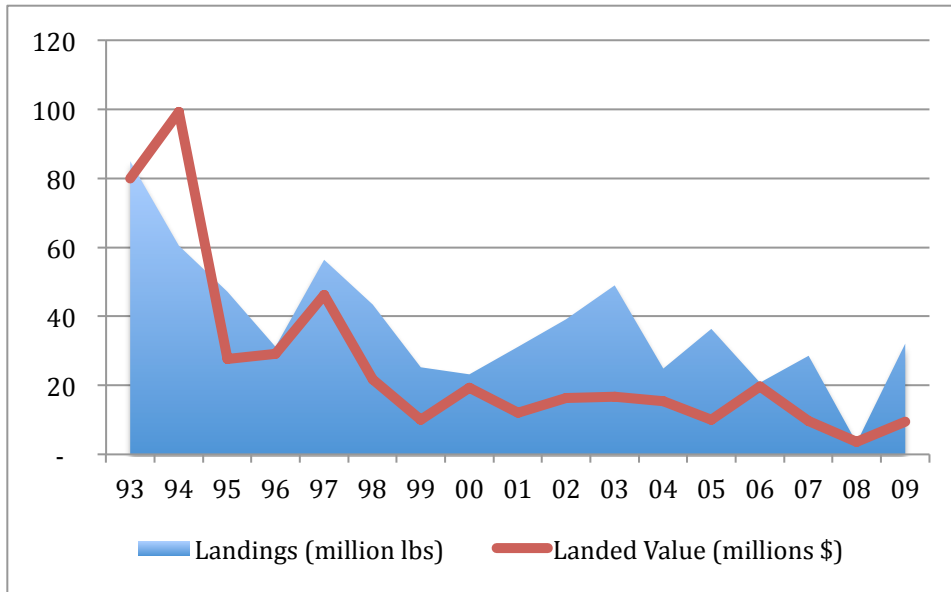
The market capitalization of AS licences has eroded dramatically in the past decade due to continued poor fishery results. Values have at times been propped-up by speculation about a move to quotas in the salmon fishery, and by government licence retirement programs. A growing pool of F licences, not valued, also contributes to the trend.

AS Licence Counts by Category



Seine Salmon Landings & Landed Value Trend

Source: DFO Catch Stats



Outlook

- The spectacular return of Fraser sockeye in 2010 (subsequent to the March 31, 2010 valuation date) has provided a long-awaited boost to catch levels and financial returns.
- The trial ITQ fishery for south coast seines was successful in many respects (providing extended availability of product to the fresh market), though some participants prefer the competitive fishery.
- There is some optimism that ocean conditions for BC salmon have improved, and that the bumper crop of pinks in the north coast in 2009, and sockeye in the south coast in 2010 are harbingers of better returns in the future.
- The salmon sector has seen a precipitous decline in infrastructure over the past two decades. The 2010 Fraser sockeye season demonstrated that catching and handling “industrial” volumes of salmon is a challenge.
- Prospects for the salmon seine fishery remain uncertain, though the events of the 2010 season have provided a much-needed glimmer of optimism.

Salmon Gillnet

General Description

<i>Licence Designation</i>	AG
<i>Nature of Licence</i>	Vessel based – vessel owner may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	970
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	182 (FAG designation, Party-based)
<i>Licensing/Management Framework</i>	Area Licensing; vessel owner must designate one of 3 areas: North (C), Johnstone St/Barclay Sound (D), or Fraser River (E); periodic area reselection (2006 was last re-selection). Stacking allowed; currently 658 Area C, 355 Area D, and 393 Area E (includes FAG and NAG licences)
<i>Additional Information</i>	Competitive fishery. An additional 254 personal licences (NAG designation) are held by the Northern Native Fishing Corporation. Vessel-based licence virtually precludes licence leasing, except in FAG category. Reduced fee licences may only be held on a vessel where the vessel owner is an aboriginal individual. Vessel-based licence allows harvest of Schedule II species and transporting (packing).

Valuation Parameters

Valuations performed:	AG licence Vessels
Amount of trading activity underlying valuation:	This is a reasonably active category
Confidence in valuation:	Moderate

Gillnet is by far the most active of the salmon gear types in terms of licence transaction activity. PICFI was also very active in the market in 2010.

Current Valuation

Licence Value at March 31, 2010

Category	# Licences	Value/Licence (\$)	Total Value (\$)
Full Fee	814	50,000	40,700,000
Reduced Fee	156	35,000	5,460,000
All AG	970	47,588	46,160,000

Valuation Comments

- Full fee valuation pegged at \$50,000. Range of values from \$40,000-65,000.
- In spite of the prospects of a good sockeye return for the 2010 season, licence prices were largely unchanged through the spring of 2010.
- Little or no valuation difference related to area (C, D, E) noted.
- The PICFI program is a major player in the market.
- F licences (182 licences in 2010) are sometimes leased, with leases at nominal values (often, sharing arrangements).

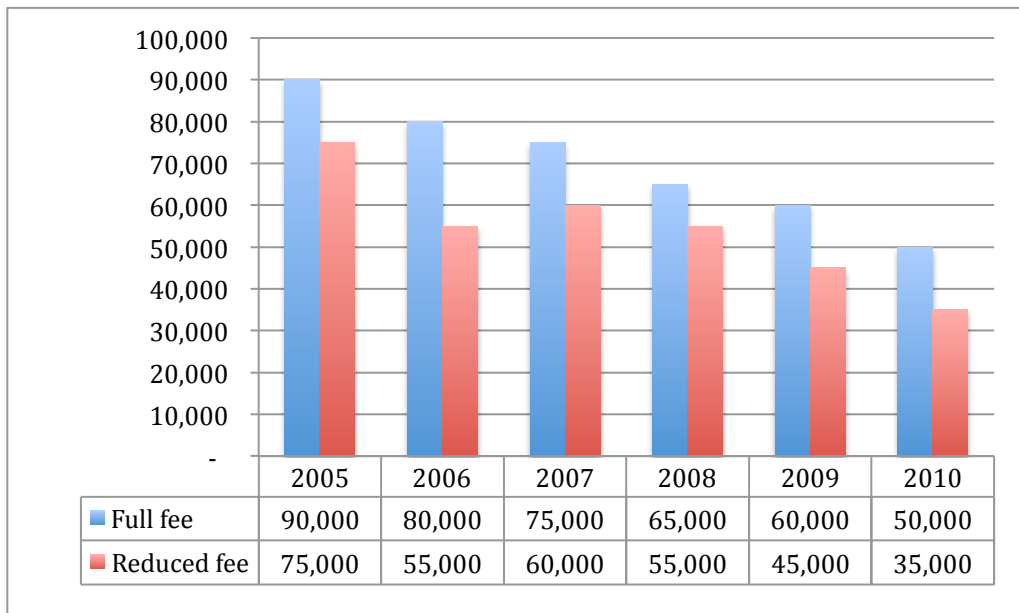
Vessel Value

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 actual number of gillnet vessels (accounting for licence stacking) is not known, so the total number of commercial licences, excluding NAG and FAG, is used as a vessel count.

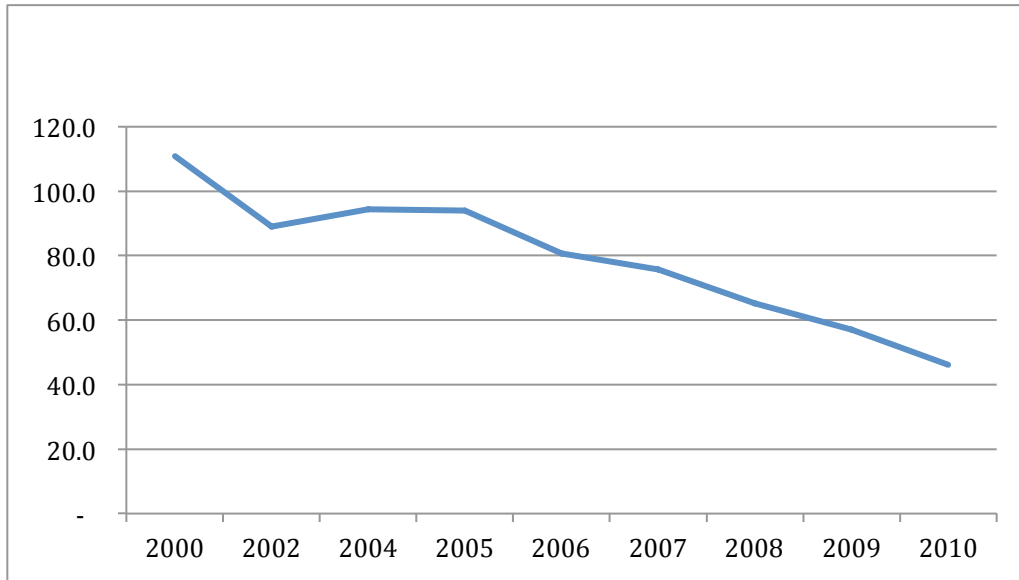
Salmon Gillnet	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	582	58,333	33,950,000
Modern Style	388	150,000	58,200,000
<i>Total</i>	970	95,000	92,150,000

Licensing Trends

Recent AG Licence Valuations (\$)

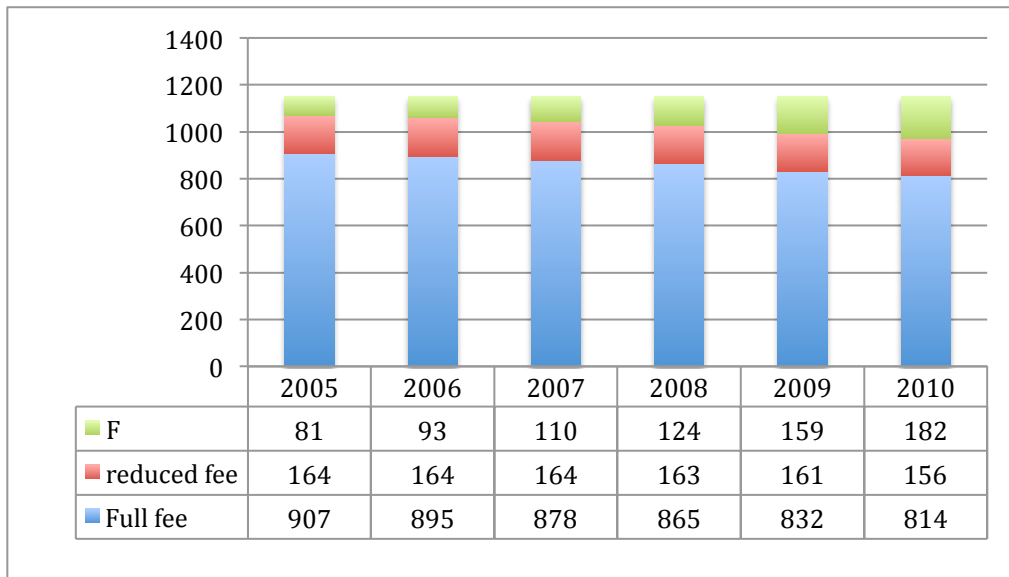


Aggregate Value of AG Licences (\$ millions by year)



The market capitalization of AG licences has eroded dramatically in the past decade due to continued poor fishery results. Values have at times been propped-up by speculation about a move to quotas in the salmon fishery, and by government licence retirement programs. A growing pool of F licences, not valued, also contributes to the trend.

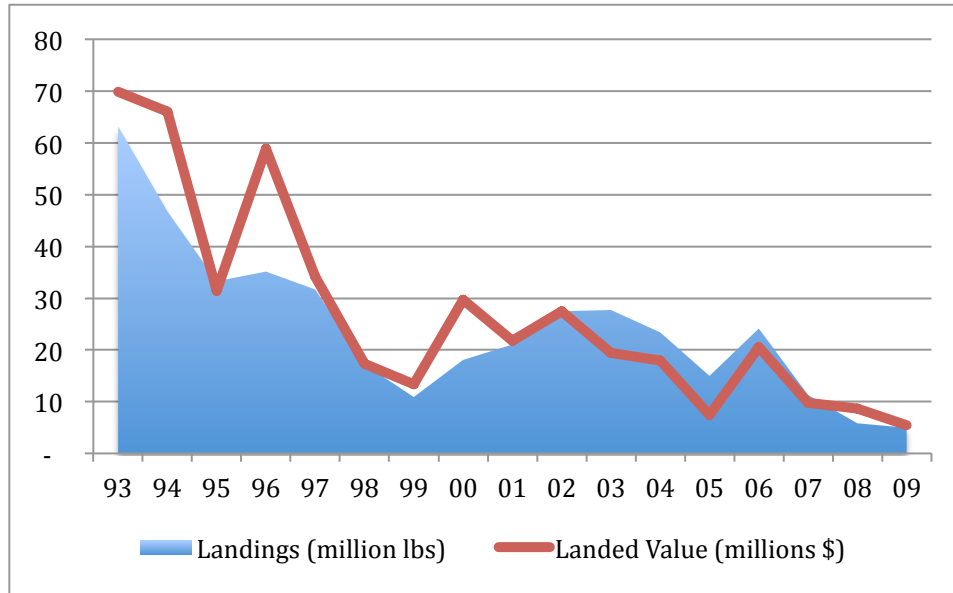
AG Licence Counts by Category



The above table does not include 254 Northern Native Fishing Corporation (NNFC) licences (NAG designation).

Gillnet Salmon Landings & Landed Value Trends

Source: DFO Catch Stats



Outlook

- The spectacular return of Fraser sockeye in 2010 (subsequent to the March 31, 2010 valuation date) has provided a long-awaited boost to catch levels and financial returns.
- Gillnets in Areas D and E enjoyed strong sockeye harvests, while fishing in Area C was very limited.
- Gillnet fisheries were conducted under the traditional (competitive) management approach in 2010.
- There is some optimism that ocean conditions for BC salmon have improved, and that the bumper crop of pinks in the north coast in 2009, and sockeye in the south coast in 2010, are harbingers of better returns in the future.
- The salmon sector has seen a precipitous decline in infrastructure over the past two decades. The 2010 Fraser sockeye season (particularly the Area E fishery) demonstrated that catching and handling “industrial” volumes of salmon is a challenge.
- Prospects for the salmon gillnet fishery remain uncertain, though the events of the 2010 season have provided a much-needed glimmer of optimism.

Salmon Troll

General Description

<i>Licence Designation</i>	AT
<i>Nature of Licence</i>	Vessel based – vessel owner may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	486
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	52 (FAT designation, Party-based)
<i>Licensing/Management Framework</i>	Area Licensing; vessel owner must designate one of 3 areas: North (F), West Coast Vancouver Island (G), and Georgia Strait (H); periodic area re-selection allowed. Stacking allowed; currently 283 Area F, 165 Area G, 90 Area H (includes FAT licences).
<i>Additional Information</i>	Competitive fishery. Vessel-based licence virtually precludes licence leasing. Reduced fee licences may only be held on a vessel where the vessel owner is an aboriginal individual. Vessel-based licence allows harvest of Schedule II species and transporting (packing).

Valuation Parameters

Valuations performed:	AT licence Vessels
Amount of trading activity underlying valuation:	Few transactions
Confidence in valuation:	Low-medium

Current Valuation

Licence Value at March 31, 2010

Category	# Licences	Value/Licence (\$)	Total Value (\$)
Full Fee	463	70,000	32,410,000
Reduced Fee	23	55,000	1,265,000
All AT	486	69,290	33,675,000

Valuation Comments

- Full fee valuation pegged at \$75,000. Estimated range: \$60,000-75,000.
- Little or no valuation difference related to area (F, G, H) noted.
- In Area F, a pilot quota program is in place. Chinook salmon quotas are sometimes leased, at approximately \$10 per fish.
- F licences (52 licences in 2010) are sometimes leased, with leases at nominal values (often, sharing arrangements).
- Few open market transactions identified for the valuation period; PICFI was the predominant player in the salmon troll licence market.

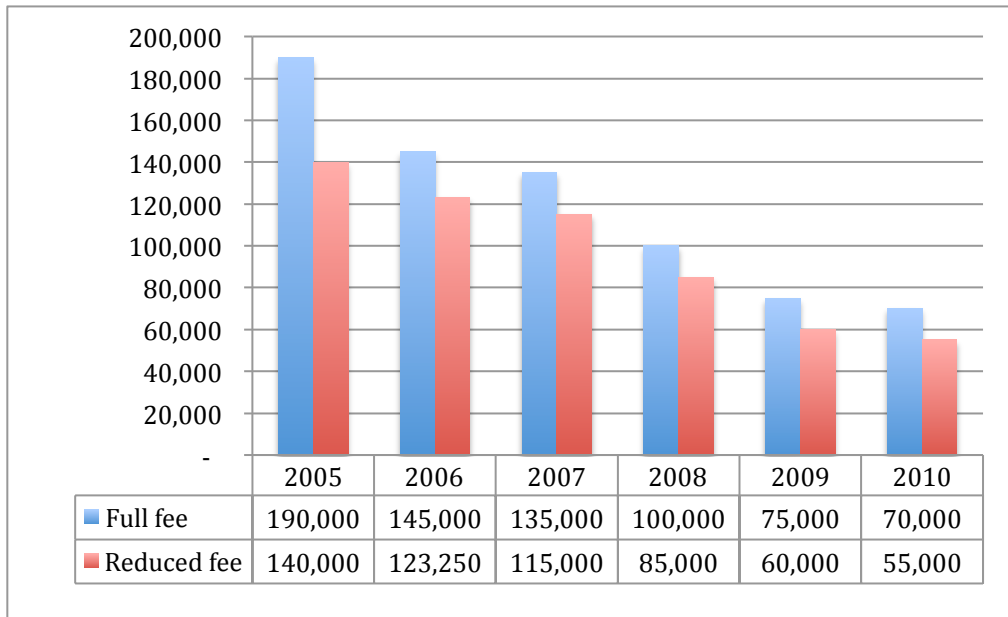
Vessel Value

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.

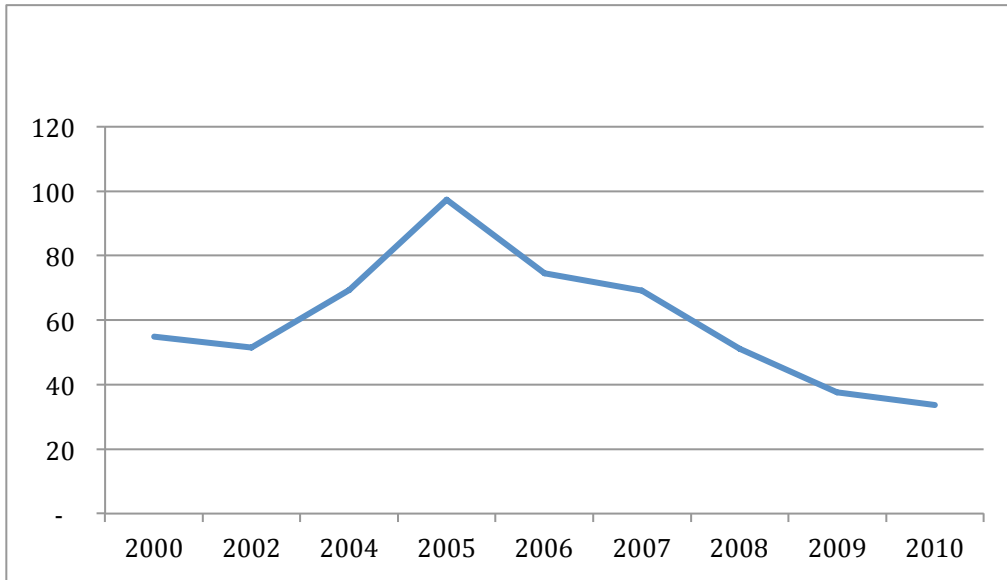
Salmon Troll	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	295	85,714	25,285,714
Modern Style	127	187,500	23,812,500
<i>Total</i>	422	116,346	49,098,214

Licensing Trends

Recent AT Licence Valuations (\$)

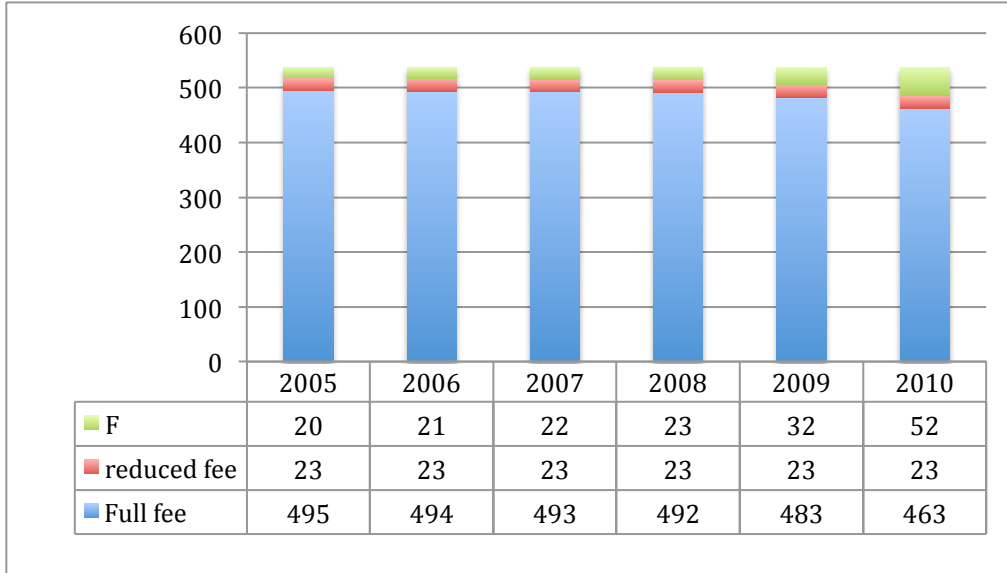


Aggregate Value of AT Licences (\$ millions by year)



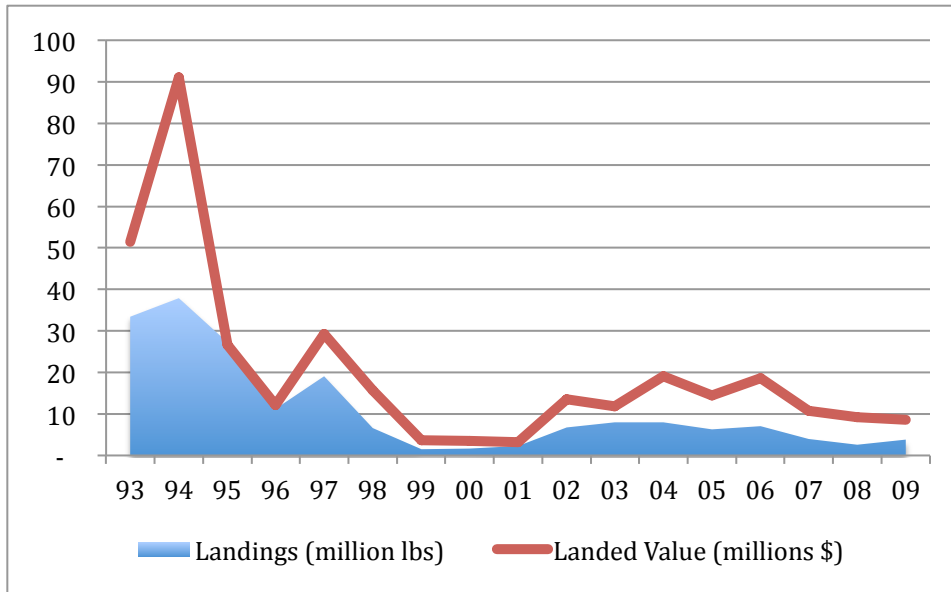
Troll aggregate licence values strengthened until 2005, fueled by improving access to chinook (and to a lesser extent coho) and high fish prices. Declining TAC since then have contributed to a diminution in values.

AT Licence Counts by Category



Troll Salmon Landings & Landed Value Trends

Source: DFO Catch Stats



Outlook

- The Area H fleet enjoyed sockeye harvesting opportunities on the 2010 Fraser sockeye run.
- A recent area reselection has further skewed the distribution of troll licences to Area F (north coast).
- The financial performance of the troll fleet (Areas F and G) is closely linked to Chinook availability (commercial TACs). The allocation framework between the commercial and recreational sectors means that, during periods of declining abundance, as seen in recent years, commercial TACs are reduced.
- The market for Chinook salmon is reasonably healthy.
- Future viability of the fleet is closely linked to salmon abundance and availability.
- Prospects for the salmon troll fishery remain uncertain.

Roe Herring Seine

General Description

<i>Licence Designation</i>	HS
<i>Nature of Licence</i>	Party based – individual, corporation, or band may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	248
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	4 (FHS designation)
<i>Licensing/Management Framework</i>	Area Licensing – holder annually selects a fishing area. Pool fishery – licensed vessels are organized into pools in order to avoid quota overages; each licence in a given area receives the same entitlement of fish. Two licences per vessel allowed (three or four in special circumstances). Minimum of 8 licences per pool.
<i>Additional Information</i>	Active lease market for licences. There are five stock management areas: QCI, North, Central, WCVI, and Strait of Georgia.

Valuation Parameters

Valuations performed:	HS licence Annual lease rate Vessels
Amount of trading activity underlying valuation:	Moderate (transactions) High (lease)
Confidence in valuation:	Moderate (transactions) High (lease)

Current Valuation

Licence Value at March 31, 2010

Category	# Licences	Value/Licence (\$)	Total Value (\$)
Full Fee	196	175,000	34,300,000
Reduced Fee	52	150,000	7,800,000
All HS	248	169,758	42,100,000

Valuation Comments

- Full fee HS licence value pegged at \$175,000. Estimated range: \$150,000-200,000.
- The trend in values was downward after the valuation date.
- This is not typically a category with very much trading activity, though a few transactions were unearthed this year.

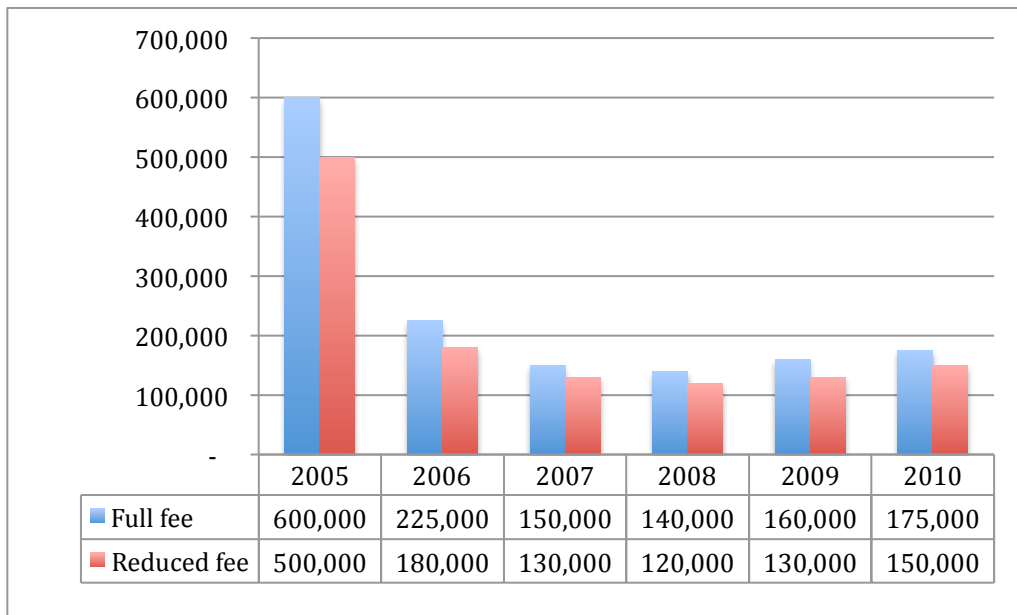
Vessel Value

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.

Herring Seine	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	35	215,000	7,525,000
Modern Style	106	733,333	77,733,333
<i>Total</i>	141	604,669	85,258,333

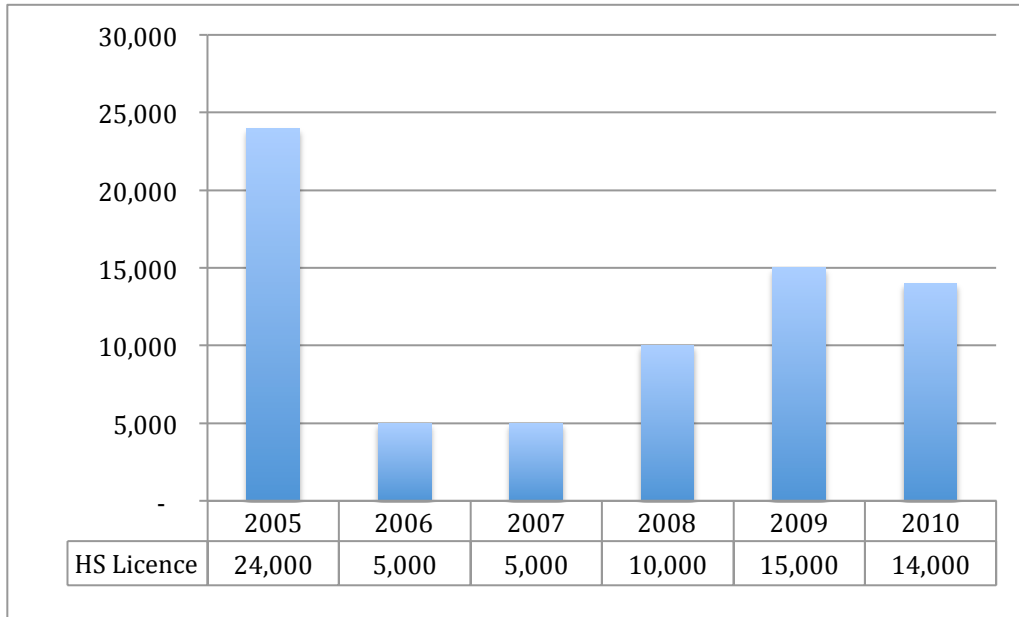
Licensing Trends

Recent HS Licence Valuations (\$)



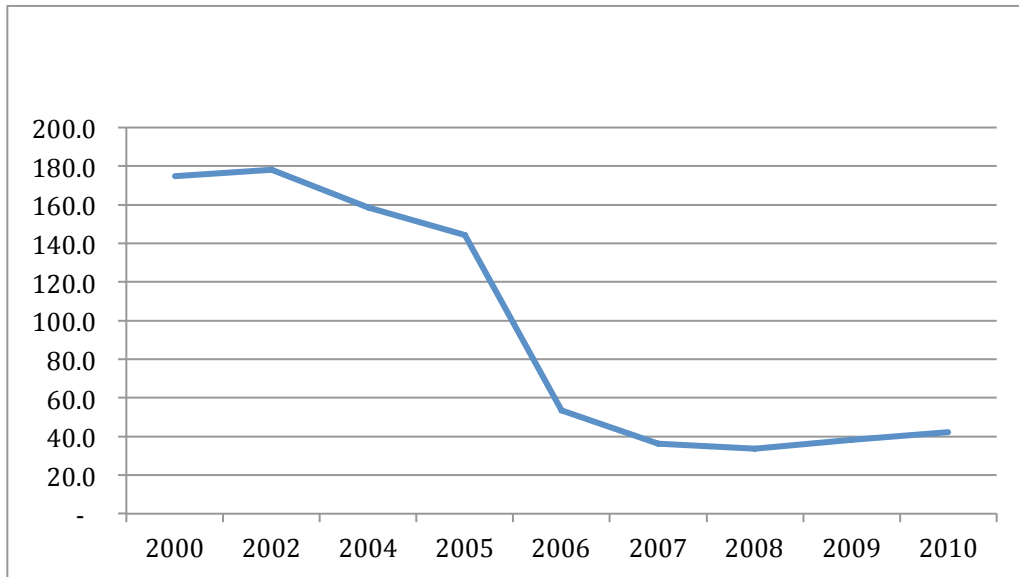
The low-level valuations for recent years reflect both low TACs for roe herring and relatively low fish prices. Values have stabilized, and even firmed slightly, as industry better aligns lease costs with expected revenues.

Recent HS Licence Lease Rates (\$)



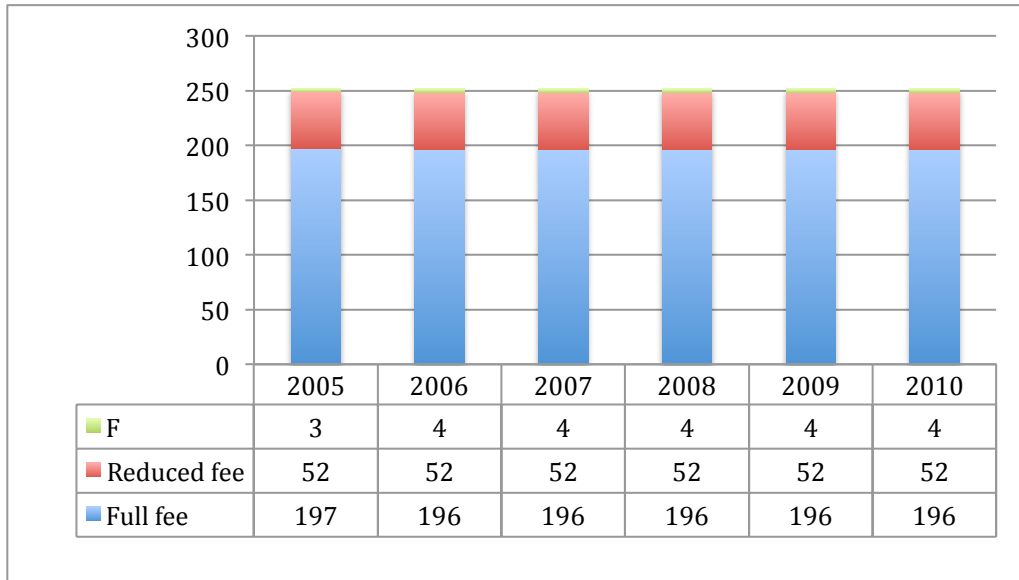
The HS licence lease rate has rallied from historic lows, though it remains far below historic levels.

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



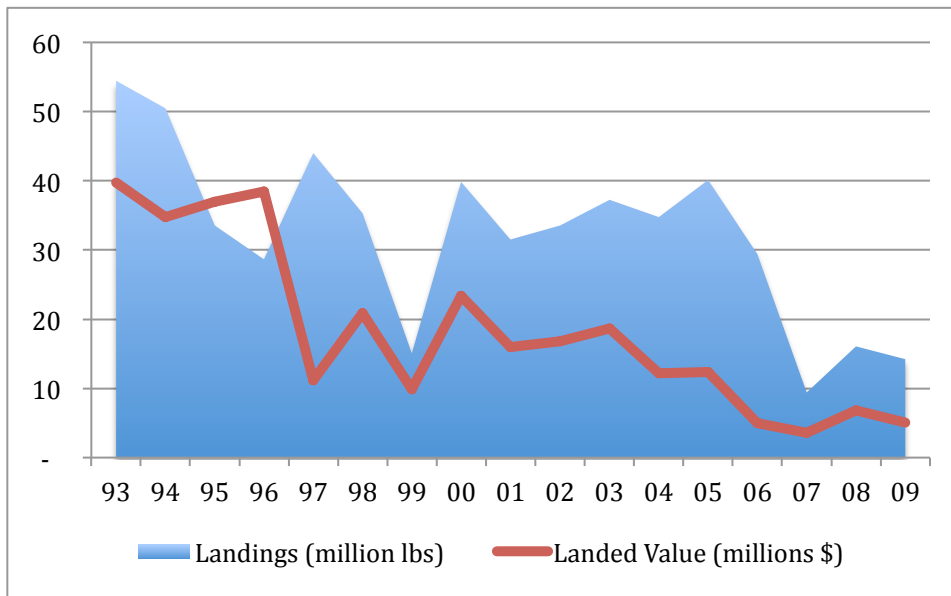
Values have stabilized, and firmed slightly, following a precipitous dip through the early 2000s.

HS Licence Counts by Category



Seine Roe Herring Landings & Landed Value Trends

Source: DFO Catch Stats



Outlook

- Herring abundance remains at low levels. The only fishery management areas providing regular opportunities are the Straight of Georgia and Prince Rupert District.
- Herring has become a relatively low margin fishery, where harvesters utilize multiple licences to make a worthwhile contribution to their operations.
- With no immediate rebound in stocks expected, and given the maturity of the Japanese herring roe market, similar conditions can be expected to prevail for the foreseeable future.

Roe Herring Gillnet

General Description

<i>Licence Designation</i>	HG
<i>Nature of Licence</i>	Party based – individual, corporation, or band may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	1207
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	61 (FH) designation
<i>Licensing/Management Framework</i>	Area Licensing – holder annually selects a fishing area. Pool fishery – organized into pools in order to avoid quota overages; each licence in a given area receives the same entitlement of fish. Minimum of 4 licences per pool.
<i>Additional Information</i>	Active lease market for licences. There are five stock management areas: QCI, North, Central, WCVI, and Strait of Georgia.

Valuation Parameters

Valuations performed:	HG licence Annual lease rate Vessels
Amount of trading activity underlying valuation:	Moderate (transactions) High (lease)
Confidence in valuation:	Moderate (transactions) High (lease)

Current Valuation

Licence Value at March 31, 2010

Category	# Licences	Value/Licence (\$)	Total Value (\$)
Full Fee	898	60,000	53,880,000
Reduced Fee	309	45,000	13,905,000
All HG	1207	56,160	67,785,000

Valuation Comments

- Full fee HG licence value pegged at \$60,000. Estimated range: \$50,000-65,000.
- Values have softened since the March 31, 2010 valuation date.
- PICFI/ATP was very active in the category, retiring 32 licences between the 2009 and 2010 valuation dates.

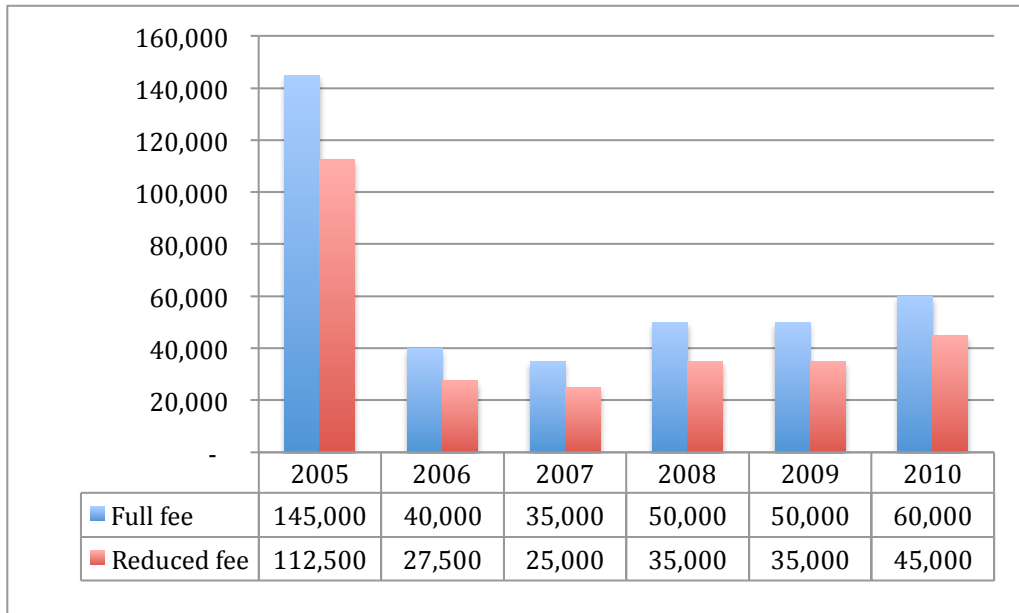
Vessel Value

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.

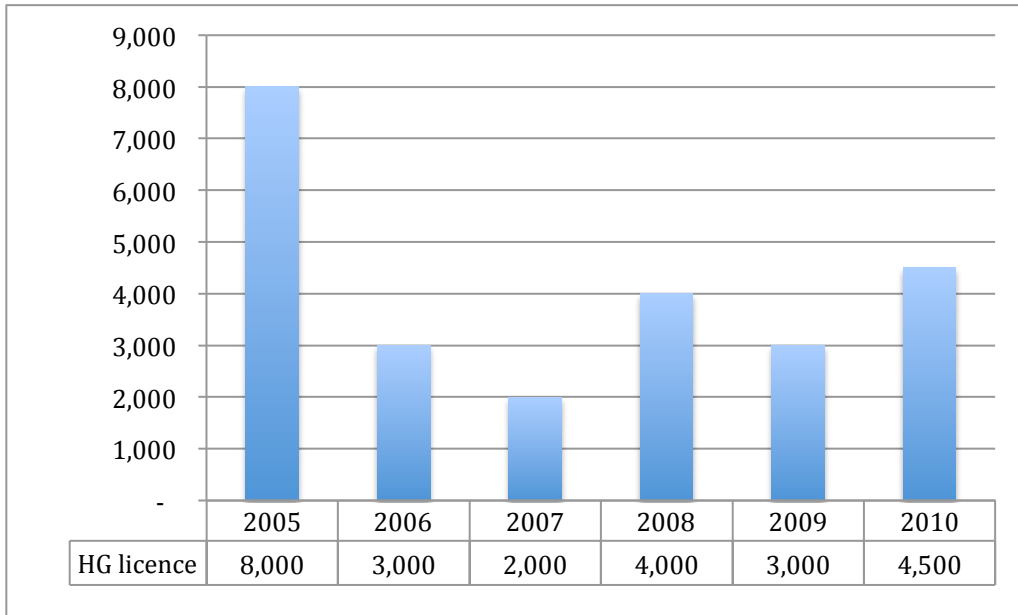
Herring Gillnet	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	90	37,500	3,375,000
Modern Style	210	132,143	27,750,000
<i>Total</i>	300	103,750	31,125,000

Licensing Trends

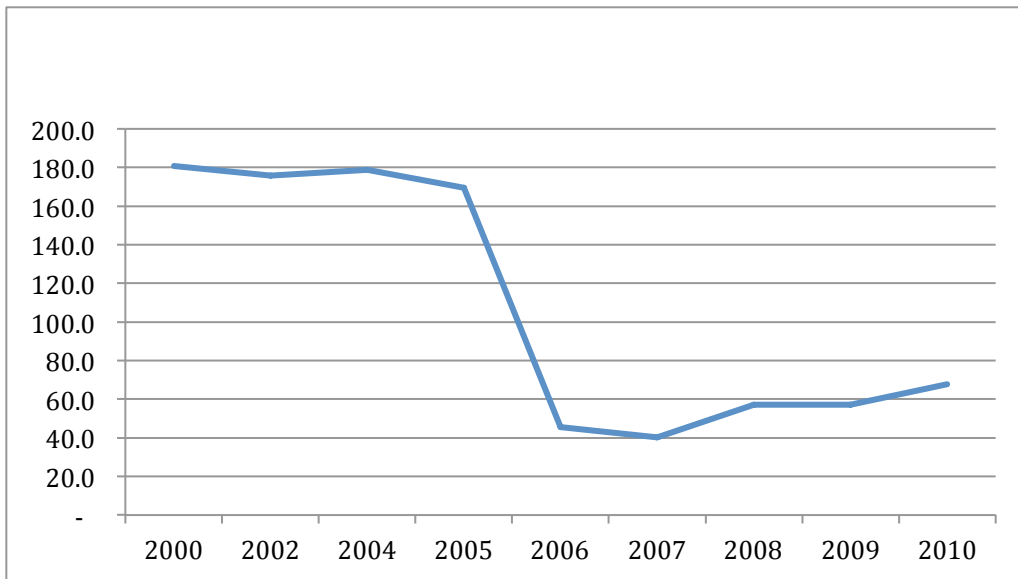
Recent HG Licence Valuations (\$)



Recent HG Licence Lease Rates (\$)

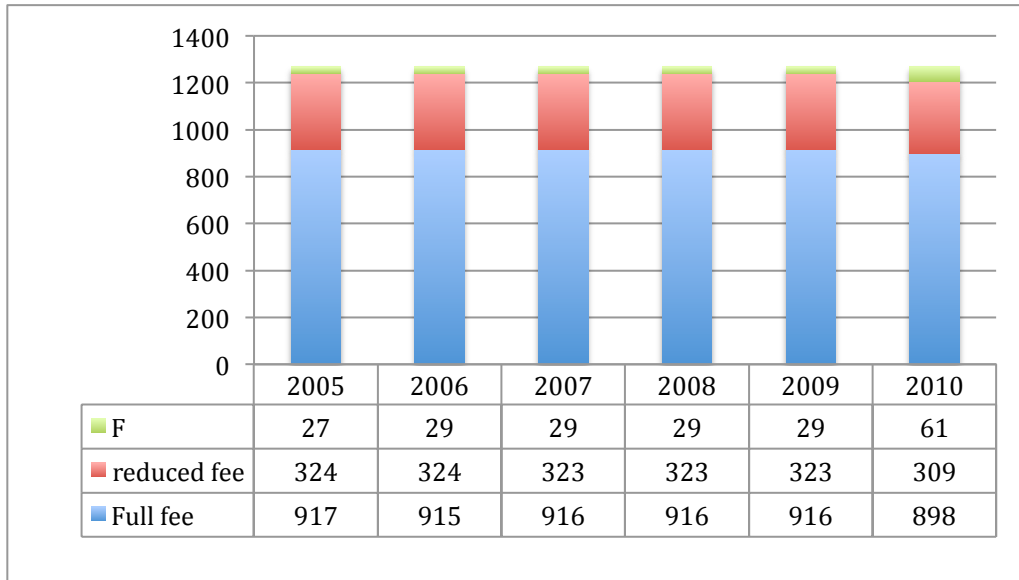


Aggregate Value of HG Licences (\$ millions by year)



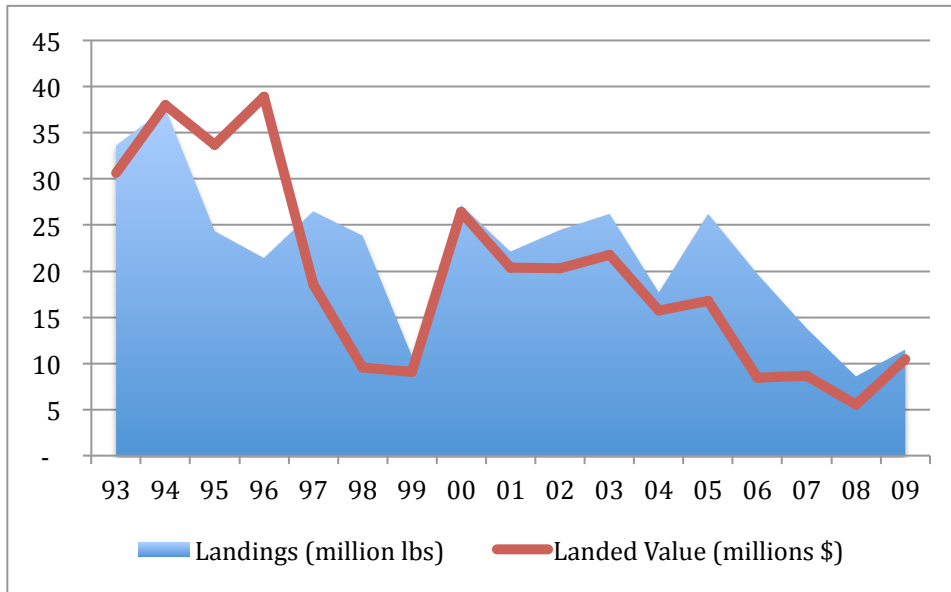
Values have stabilized, and firmed slightly, following a precipitous dip through the early 2000s.

Licence Counts by Category



Gillnet Roe Herring Landings & Landed Value Trends

Source: DFO Catch Stats



Outlook

- Herring abundance remains at low levels. The only fishery management areas providing regular opportunities are the Straight of Georgia and Prince Rupert District.
- Herring has become a relatively low margin fishery, where harvesters utilize multiple licences to make a worthwhile contribution to their operations.
- With no immediate rebound in stocks expected, and given the maturity of the Japanese herring roe market, similar conditions can be expected to prevail for the foreseeable future.

Herring Spawn on Kelp

General Description

<i>Licence Designation</i>	J
<i>Nature of Licence</i>	Party based – individual, corporation, or band may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	36
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	3 (FJ designation) An additional 7 FJ licences are issued annually to the Heiltsuk.
<i>Licensing/Management Framework</i>	Quota system – each J licence entitled to harvest 16,000 lbs (8 short tons) of product (FJ's may have a different entitlement). Licences are not technically transferable, but are effected through long term leases
<i>Additional Information</i>	Each licence is associated with a particular operating area; licences must be operated in that area Valuation is extremely imprecise, since there are no recognized transactions.

Valuation Parameters

Valuations performed:	J licence
Amount of trading activity underlying valuation:	None
Confidence in valuation:	Low

Current Valuation

Licence Value at March 31, 2010

Category	# Licences	Value/Licence (\$)	Total Value (\$)
J Licences	36	275,000	9,900,000

Valuation Comments

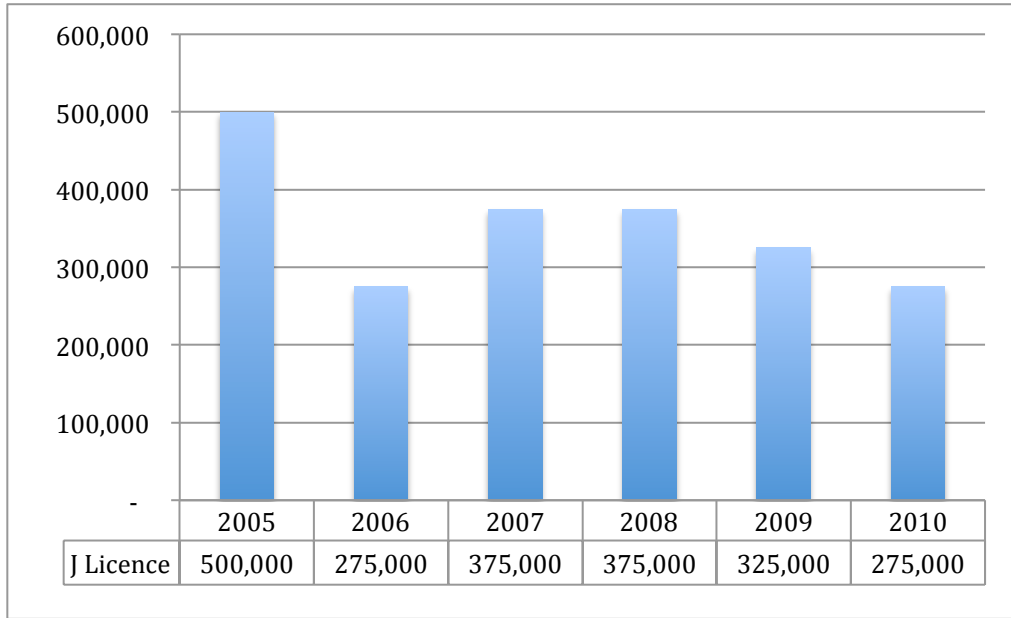
- J licence value is pegged at \$275,000, based largely on anecdotal information.
- Product prices were weak (again) in 2010, and a number of licences were once again un-fished. Lack of profitability in the fishery contributes to a moribund licence market.
- Selected licences (depending on access to stocks and other factors) that are able to operate profitably may have substantially higher value.

Vessel Value

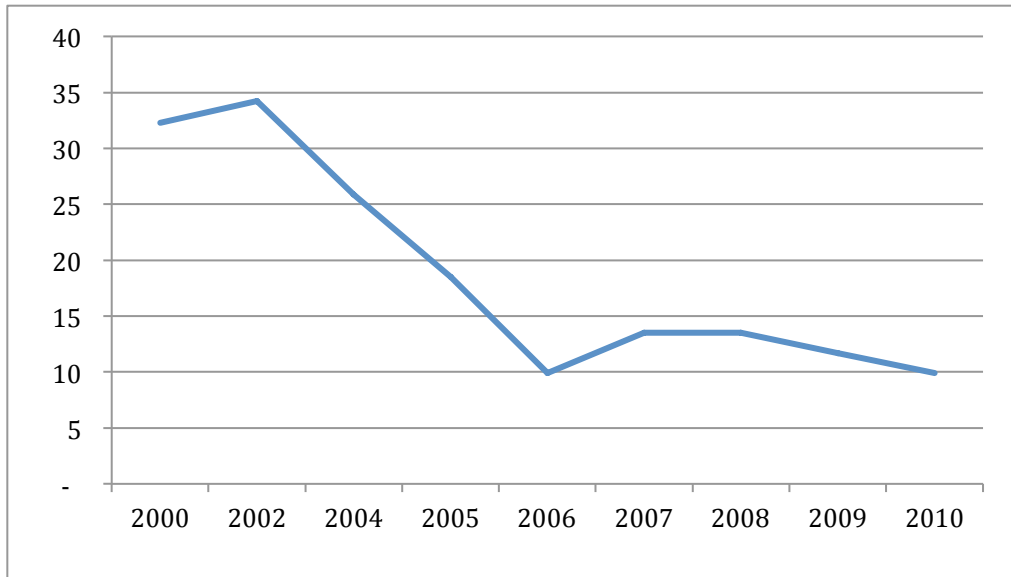
Not valued. There is no single vessel type associated with the spawn on kelp fishery, nor are licences assigned to a vessel.

Licensing Trends

Recent J Licence Valuations (\$)

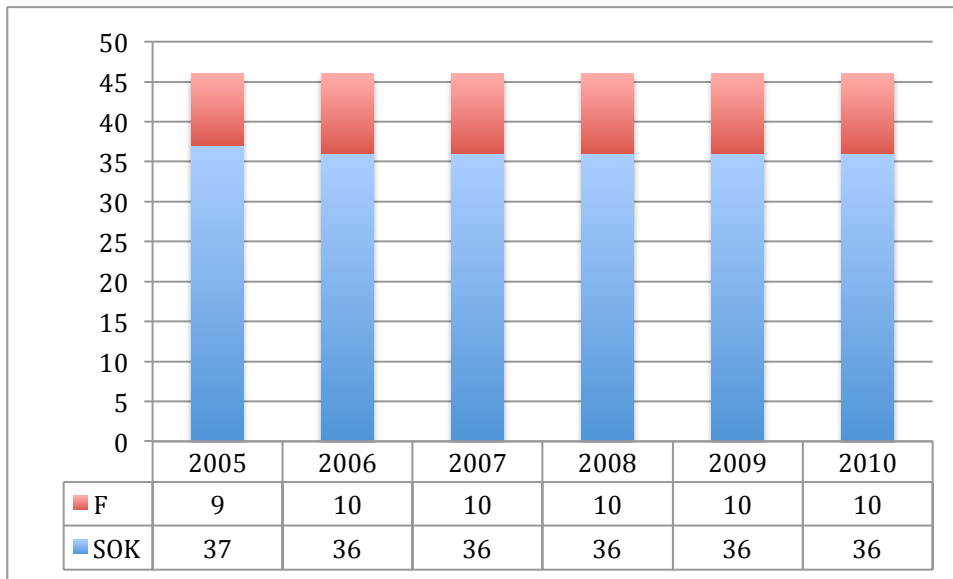


Aggregate Value of J Licences (\$ millions by year)



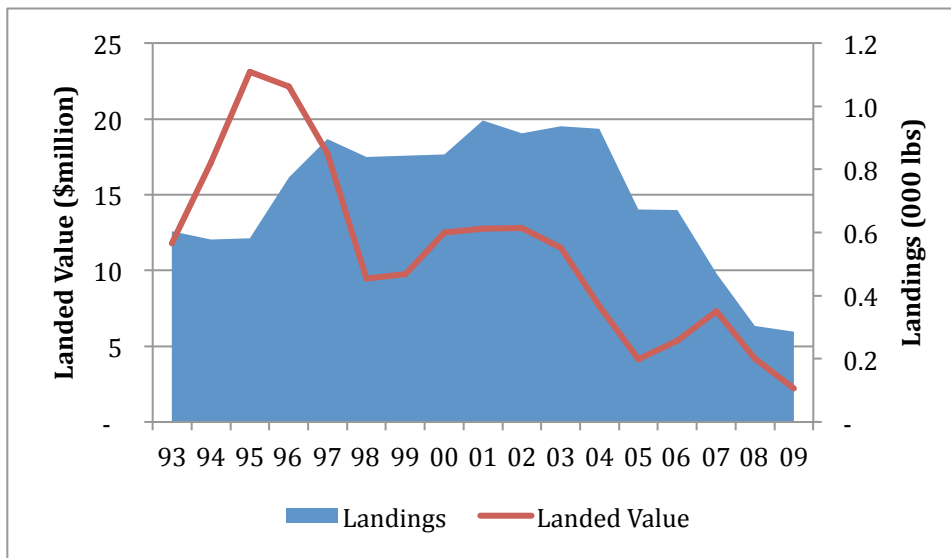
The sharp decline in J licence capitalization mirrors that seen in the roe herring fisheries.

J Licence Counts by Category



Spawn on Kelp Landings & Landed Value Trends

Source: DFO Catch Stats



Outlook

- The spawn on kelp fishery faces severe challenges due to increasing production from other areas (most notably Alaska), and an extremely limited market. In addition, low stock levels make it difficult for SOK operators to garner all allowable product.
- Because of poor economics, many licences were un-utilized or not fully utilized again in 2010.
- Though economic/resource conditions are generally challenging, some licence holders in some areas are able to operate profitably, given favorable stock conditions, production methods, and market access.
- The outlook for spawn on kelp is highly uncertain.

Halibut

General Description

<i>Licence Designation</i>	L
<i>Nature of Licence</i>	Vessel based – vessel owner may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	360
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	75 (FL designation, Party-based)
<i>Licensing/Management Framework</i>	<p>Quota management system. Quota is separable from licence and divisible into one-pound increments. Quota can be re-allocated (transferred) amongst L licensed vessels on a temporary or permanent basis (FL's temporary only). Vessel must hold a halibut licence to hold or fish halibut. There is a minimum quantity of quota to be held on L licences (permanent allocation); see Management Plan for details.</p>
<i>Additional Information</i>	<p>About 170 of the L-licensed fleet actively fish for halibut. Quotas have declined in recent years due to stock fluctuation and distribution.</p> <p>Quota in the 2010 management plan for the commercial fishery is 6.6 million pounds.</p> <p>Vessel-based licence allows harvest of Schedule II species and transporting (packing).</p>

Valuation Parameters

Valuations performed:	L licence (per foot) Quota value per pound Lease rate per pound Vessels
Amount of trading activity underlying valuation:	A moderate number of quota transactions (the # trades each year seems to fall) There is a high degree of leasing activity
Confidence in valuation:	Moderate (transactions) Moderate (lease)

Current Valuation

Licence and Quota Value at March 31, 2010

Category	# Licences/ lbs quota	Value per Licence Ft/ lb quota (\$)	Total Value (\$)
L	360	1,300	19,936,800
Quota	6,596,163	40.00	263,846,520
Total Value			283,783,320

Valuation Comments

- Average licence value pegged at \$56,680 (\$1,300 per foot x 43.6 average vessel length). Licence values range from \$1,000-1,500 per foot, and are generally sold with minimum quota.
- Quota value per pound pegged at \$40.00 per pound. Estimated range: \$38.00-42.00.
- Fewer open market transactions apparent than in prior years (continuation of a trend).
- PICFI is very active in retiring both licences and quota, as halibut is highly coveted by First Nations.

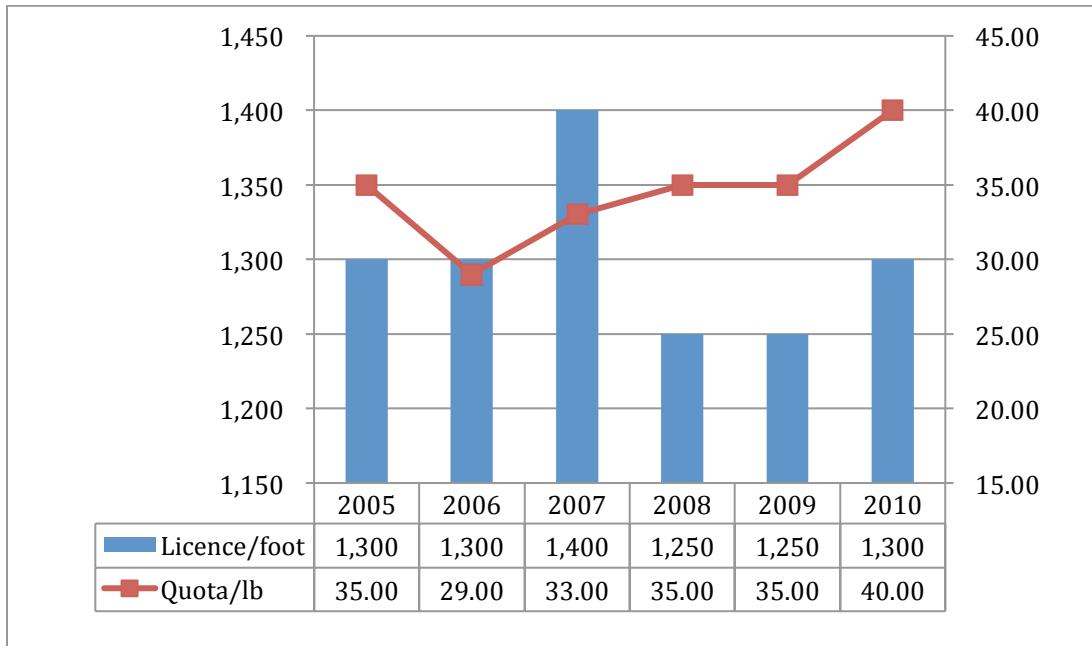
Vessel Value

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.

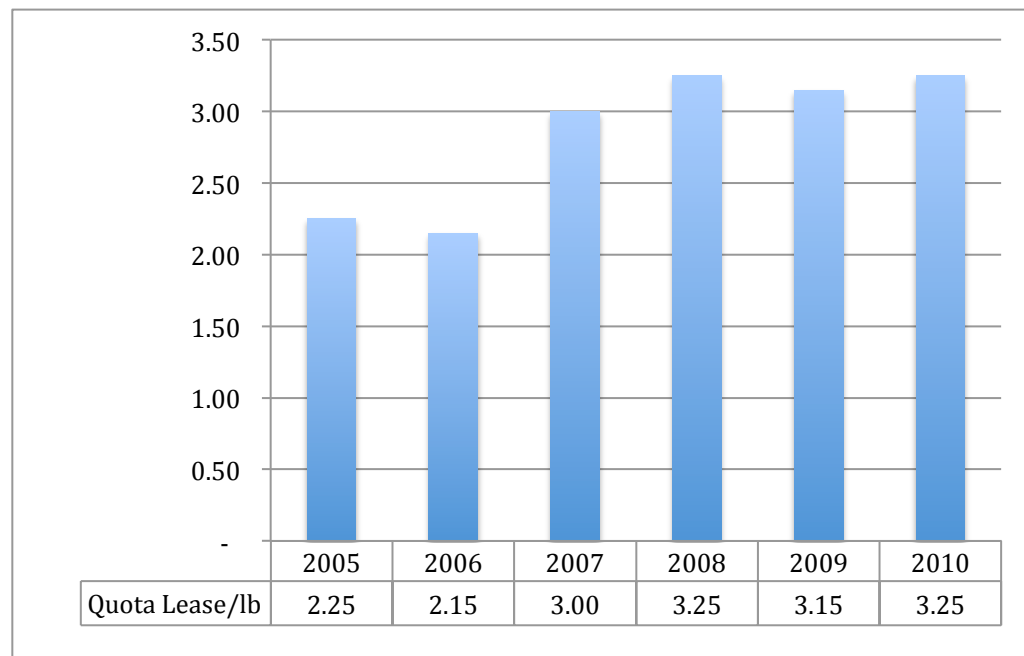
Halibut	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	261	87,500	22,837,500
Modern Style	174	218,750	38,062,500
<i>Total</i>	435	140,000	60,900,000

License & Quota Trends

Recent L Licence and Halibut Quota Valuations (\$)

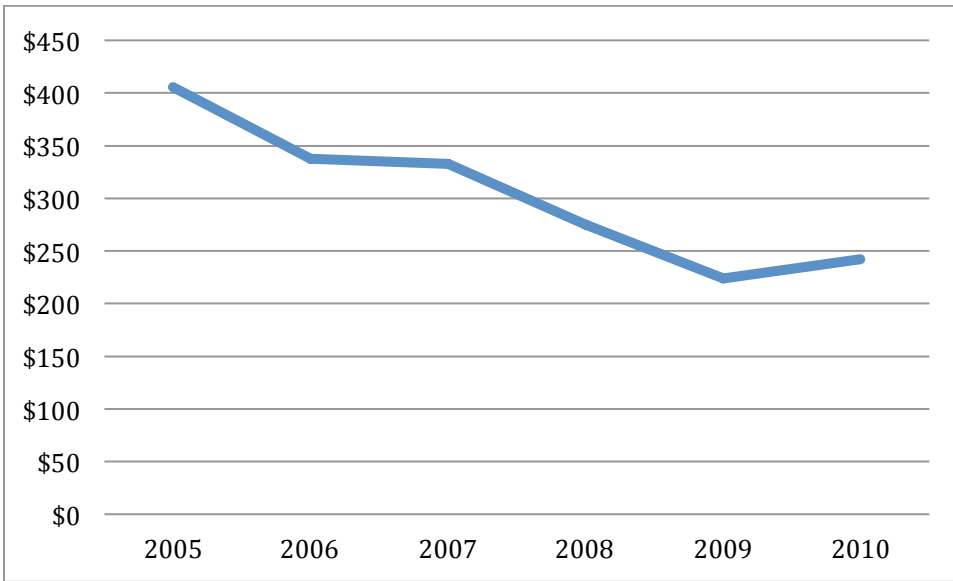


Recent Halibut Quota Lease Rates (\$ per lb)

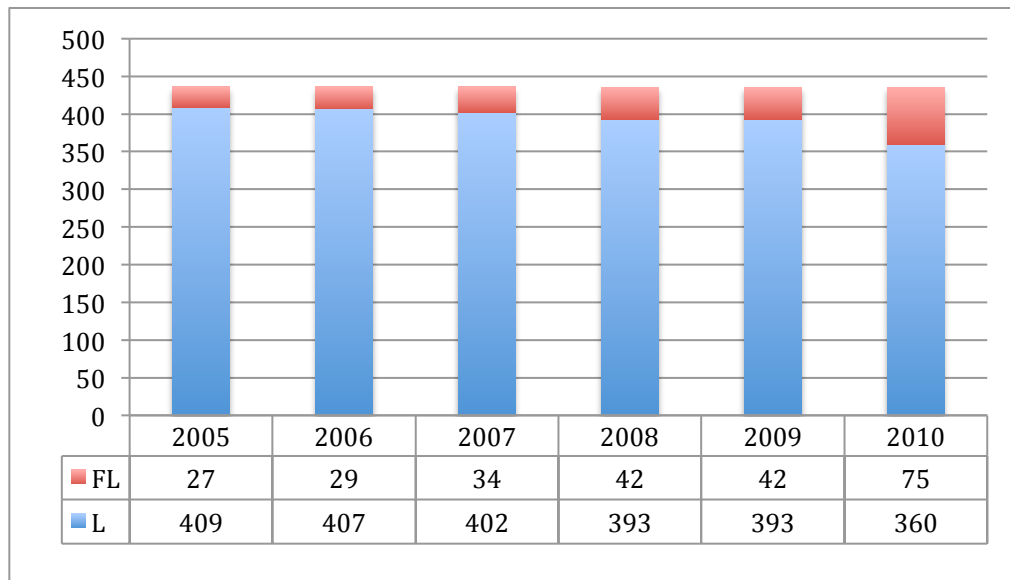


Quota lease price is pegged at \$3.25 at March 31, 2010. This rate reflects leases within the halibut sector for blocks of quota, with a range from \$3.10-3.50. Halibut quota is also leased in-season amongst halibut vessels, and to (and amongst) vessels in other groundfish sectors. For small quantities of quota, often later in the season, these leases may be at substantially higher per-pound levels (rates up to \$4.00 per pound were reported).

Aggregate Value of L Licences and Halibut Quota (\$ millions by year)¹

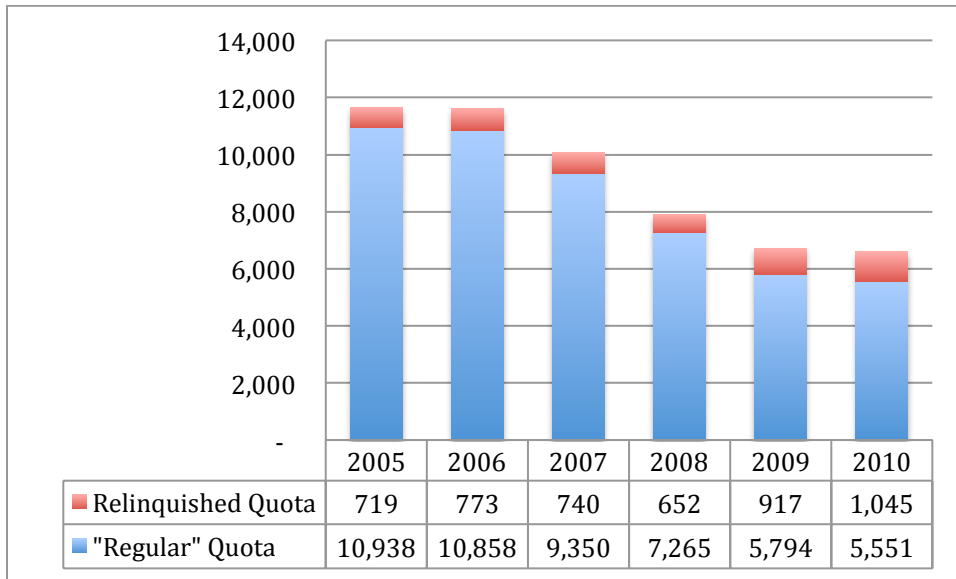


L Licence Counts by Category



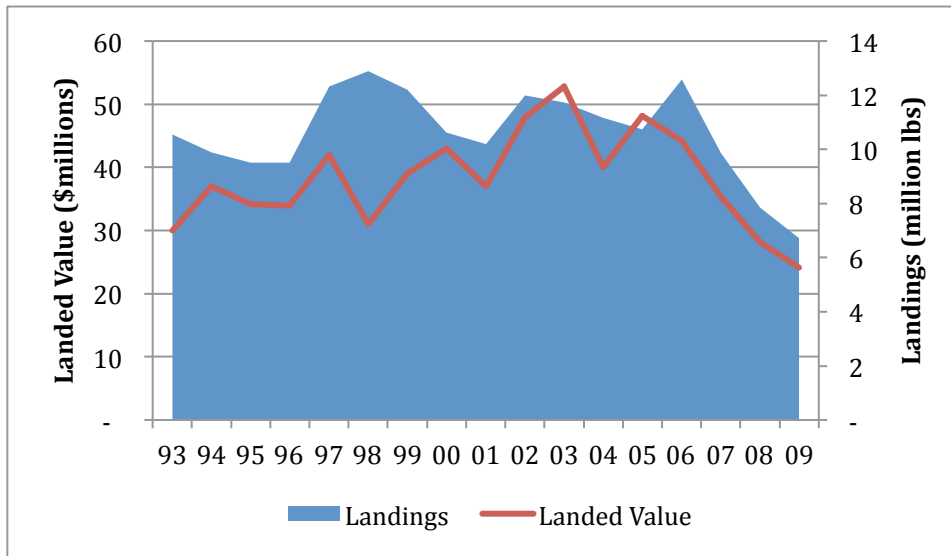
¹ Excludes F licences and relinquished quota

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

- Fish prices received by harvesters during the 2010 season have been at/near historic highs, with levels in excess of \$6.00/lb reported. The total BC/Alaska TAC is down, which seems to be creating a sellers market for halibut producers.
- Lease prices have reportedly risen along with fish prices.
- The TAC is likely to remain at a low level for at least another year, but will remain unknown until fishery and survey results from BC and Alaska are evaluated. The apportionment formula used by the International Pacific Halibut Commission is a strong determinant in setting the Canadian TAC.

PACIFIC FLEET LICENCE, QUOTA, AND VESSEL VALUATION: AT MARCH 31, 2010

- Halibut continues to be regarded as a well-managed fishery that supports profitable operations.
- The BC halibut fishery received Marine Stewardship Council (MSC) certification during 2009. This provides 3rd party confirmation that the fishery is sustainably managed, and preserves/enhances marketing opportunities for BC product.
- Halibut quota is in high demand from First Nations seeking enhanced commercial fishery resource access.
- The potential listing of bocaccio and canary rockfish under the Species at Risk process is a concern that could limit future resource access.

Sablefish (Black Cod)

General Description

<i>Licence Designation</i>	K
<i>Nature of Licence</i>	Vessel based – vessel owner may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	44
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	4 (FK designation, Party-based)
<i>Licensing/Management Framework</i>	Quota management system. Each K licence was allocated a sablefish quota (permanent % of the TAC) based on a combination of vessel length and catch history. Quota is separable from licence and divisible into one pound increments. Quota can be re-allocated (transferred) amongst K licensed vessels on a temporary or permanent basis (FK's temporary only).
<i>Additional Information</i>	About 30 vessels actively fishing currently. Vessel-based licence allows harvest of Schedule II species and transporting (packing).

Valuation Parameters

Valuations performed:	K licence (per foot) Quota value per pound Lease rate per pound Vessels
Amount of trading activity underlying valuation:	Very few licence or quota transactions in the open market A substantial amount of leasing activity
Confidence in valuation:	Low (licence and quota transactions)—because of few transactions Low (lease)—because of the wide range in lease rates seen during the period

Current Valuation

Licence and Quota Value at March 31, 2010

Category	# Licences/ lbs quota	Value per Licence/ lb quota (\$)	Total Value (\$)
K Licence	44	200,000	8,800,000
Quota	3,032,735	37.00	112,211,210
Total Value			121,011,210

Valuation Comments

- Average licence value pegged at \$200,000.
- Quota value per pound pegged at \$37.00 per pound. Estimated range: \$35.00-40.00. Very few open-market transactions were unearthed. PICFI was the key source of transactions.
- Sablefish quota value is considered to be very similar to halibut.
- Fewer transactions apparent than in prior years (continuation of a trend). The low level of transactions is not seen as reflecting poor prospects, but rather, the relatively tight holdings pattern of quota.

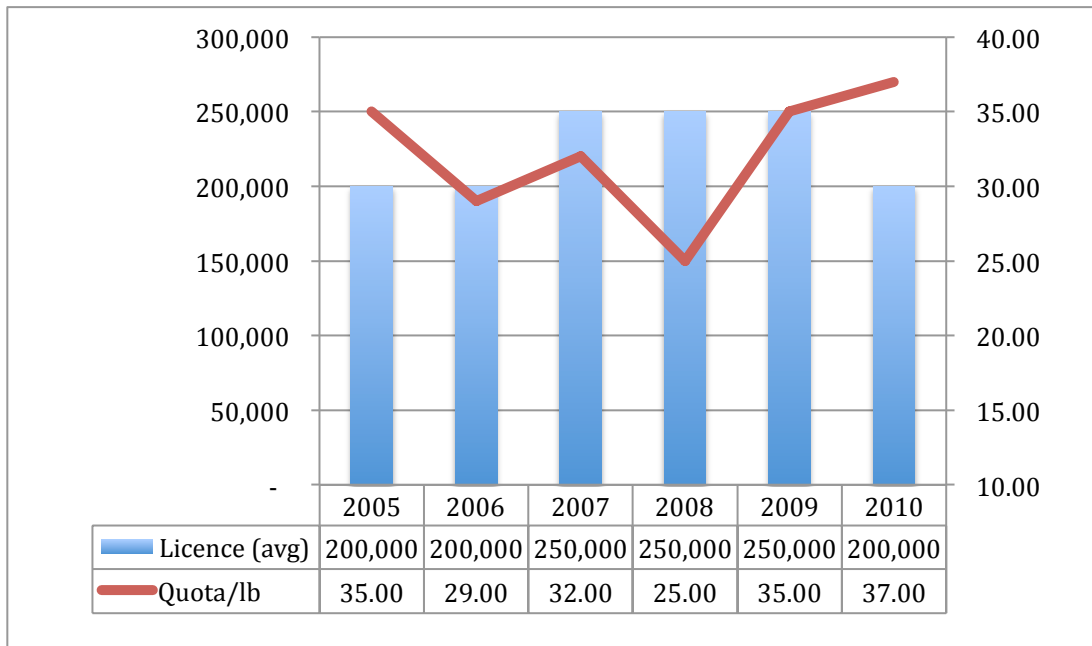
Vessel Value

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.

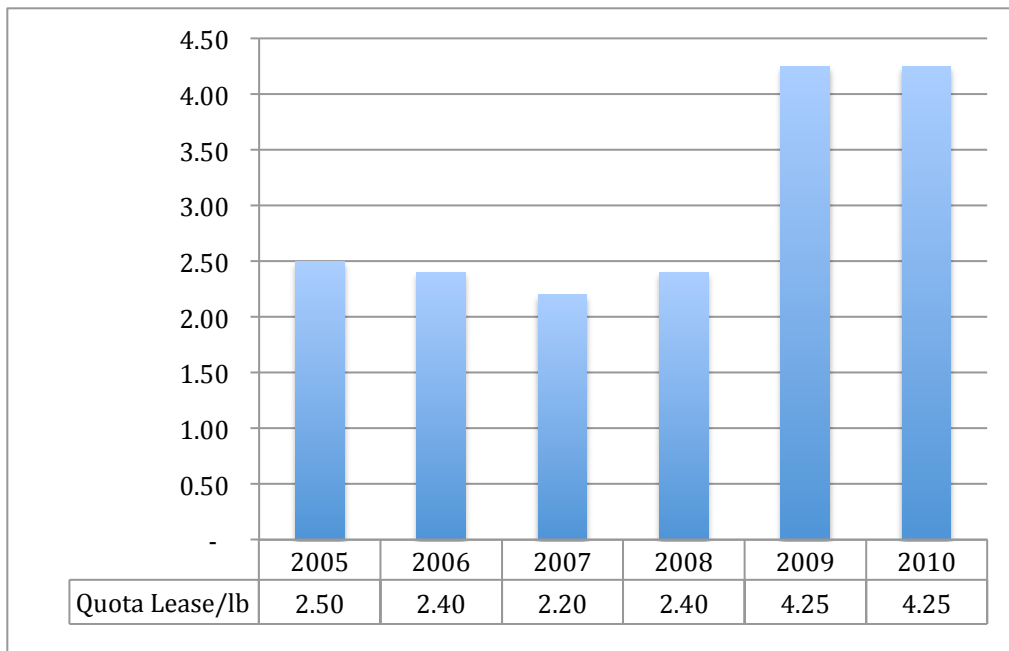
Sablefish	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	24	187,500	4,500,000
Modern Style	24	825,000	19,800,000
<i>Total</i>	48	506,250	24,300,000

Licensing Trends

Recent K Licence and Sablefish Quota Valuations (\$)



Recent Sablefish Quota Lease Rates (\$ per lb)

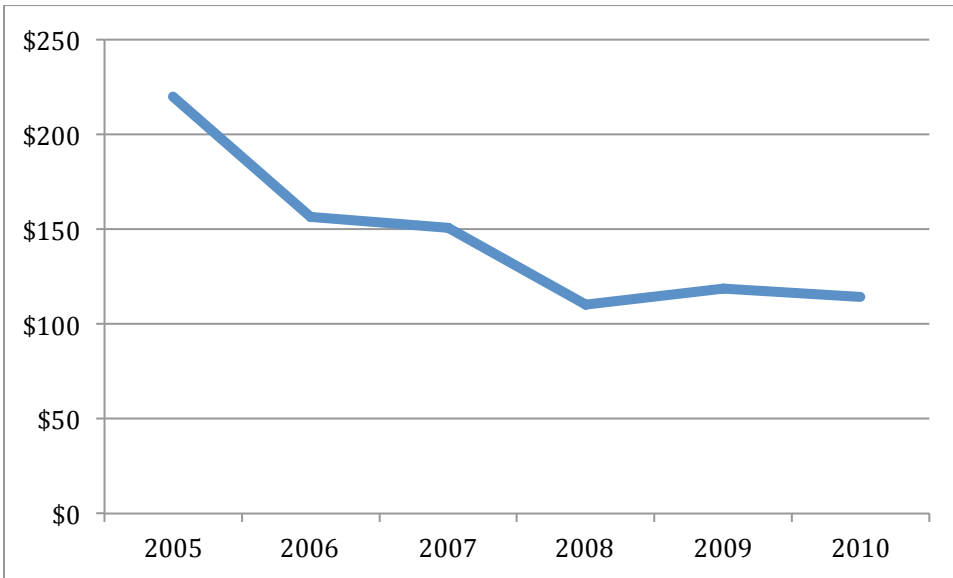


Lease rates ranged from \$3.75 (prior to the commencement of the season) to \$4.60, with a pegged value of \$4.25. There is leasing both within the sablefish sector, and to other groundfish

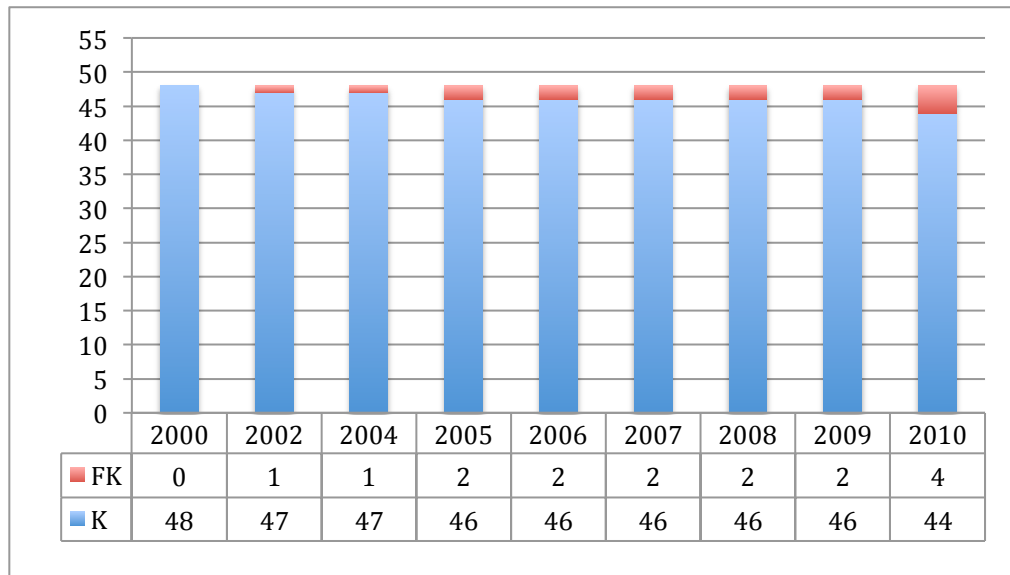
PACIFIC FLEET LICENCE, QUOTA, AND VESSEL VALUATION: AT MARCH 31, 2010

sectors. Lease rates for longline fishing (often, small increments of quota) may be at higher rates than larger blocks of quota leased within the “K fleet.”

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

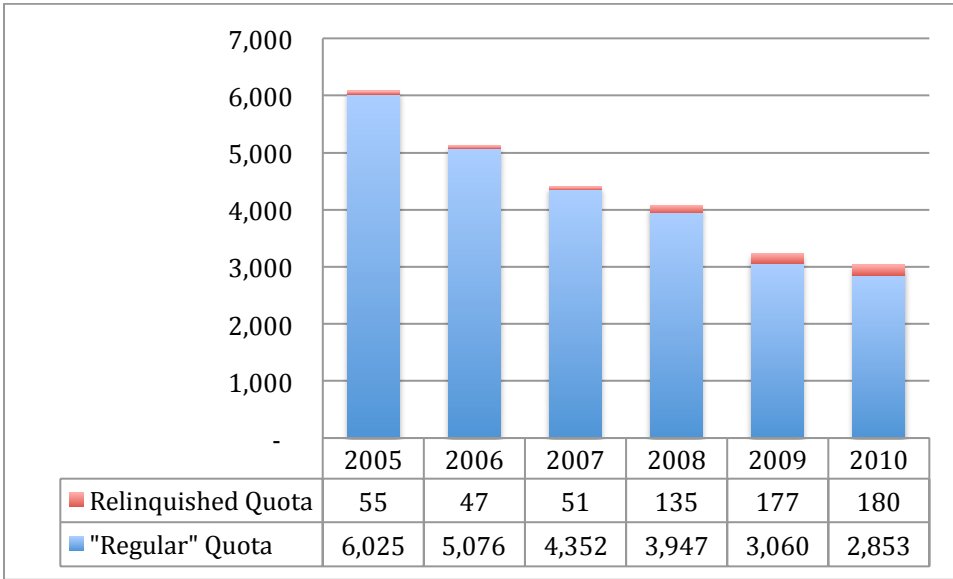


K Licence Counts by Category



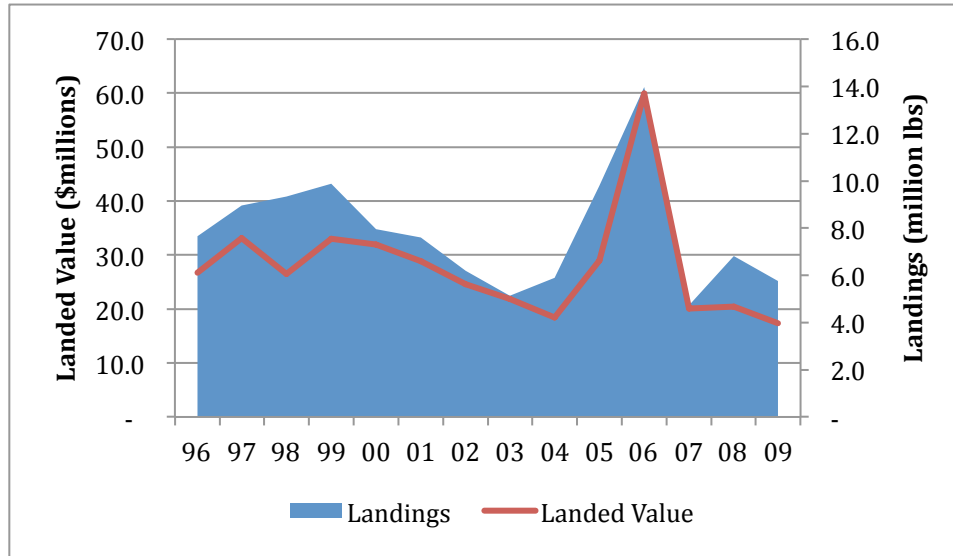
² excludes F licences and relinquished quota

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



Sablefish Landings & Landed Value Trends

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



Note that the 2006 data point appears to be incorrect (too high). Sablefish seasons straddle calendar years and at times exceed a 12-month period. The actual trend for the last few years should be a gradual decline, reflecting reductions in sablefish TAC.

Outlook

- Sablefish continues to be regarded as a well-managed fishery that supports profitable operations.
- Sablefish is currently in the MSC assessment process (nearing approval, it is expected).
- Sablefish quota is in high demand from First Nations seeking enhanced commercial fishery resource access.
- The potential listing of bocaccio and canary rockfish under the Species at Risk process is a concern that could limit future resource access.

Geoduck/Horseclam

General Description

<i>Licence Designation</i>	G
<i>Nature of Licence</i>	Vessel based – vessel owner may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	55
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	nil
<i>Licensing/Management Framework</i>	<p>Area Licensing: three areas, the north coast, WCVI, and inside waters of Vancouver Island. Each of the 55 “G” licence eligibilities selects an area annually. The number of licence eligibilities fishing each area may change annually according to the proportion of the total quota assigned to each area.</p> <p>Licence stacking allowed, 3 licences maximum per vessel.</p> <p>Quota management – each licence may harvest 1/55 of the total quota, or 62,500 lbs in 2010. Quotas unchanged last several years.</p>
<i>Additional Information</i>	<p>Dive fishery.</p> <p>39 vessels currently operating the 55 licences. Quotas not divisible.</p> <p>Vessel-based licence allows harvest of Schedule II species and transporting (packing).</p>

Valuation Parameters

Valuations performed:	G licence Annual lease rate Vessels
Amount of trading activity underlying valuation:	Nil (transactions) Low-Moderate (lease)
Confidence in valuation:	Low (transactions)—because of lack of transactions Low (lease)—because of limited data and wide variety of arrangements

Current Valuation

Licence Value at March 31, 2010

Category	# Licences	Value/ Licence (\$m)	Total Value (\$)
G Licences	55	3.25	178.8

Valuation Comments

- Licence value pegged at \$3.25 million.
- The increased value (up from \$2.5-2.75 million in prior years) is based on anecdotal information and the fact that ex-vessel fish prices have firmed since the last valuation.
- No known transactions during the valuation period.

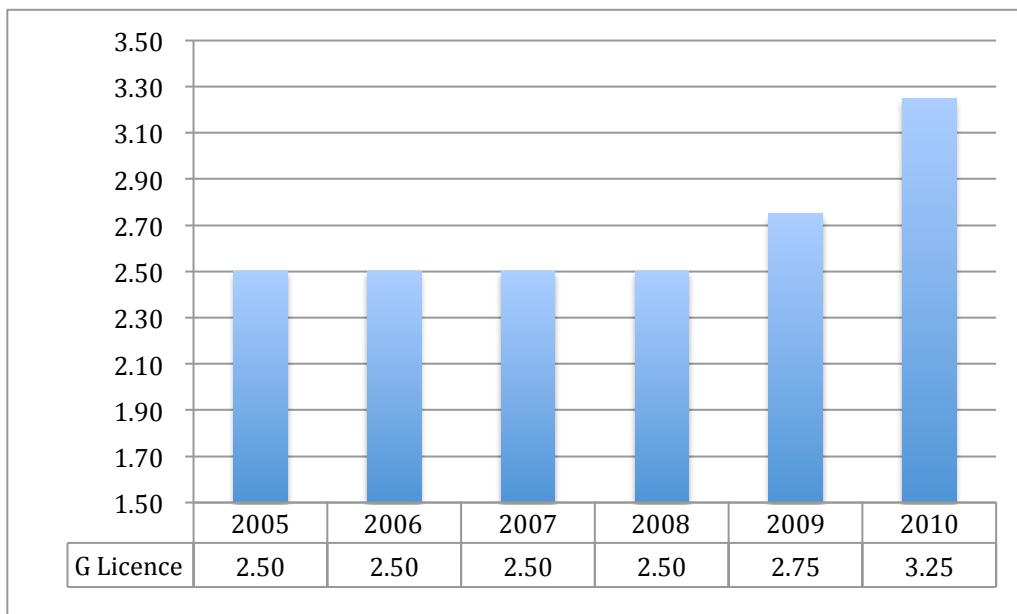
Vessel Value

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.

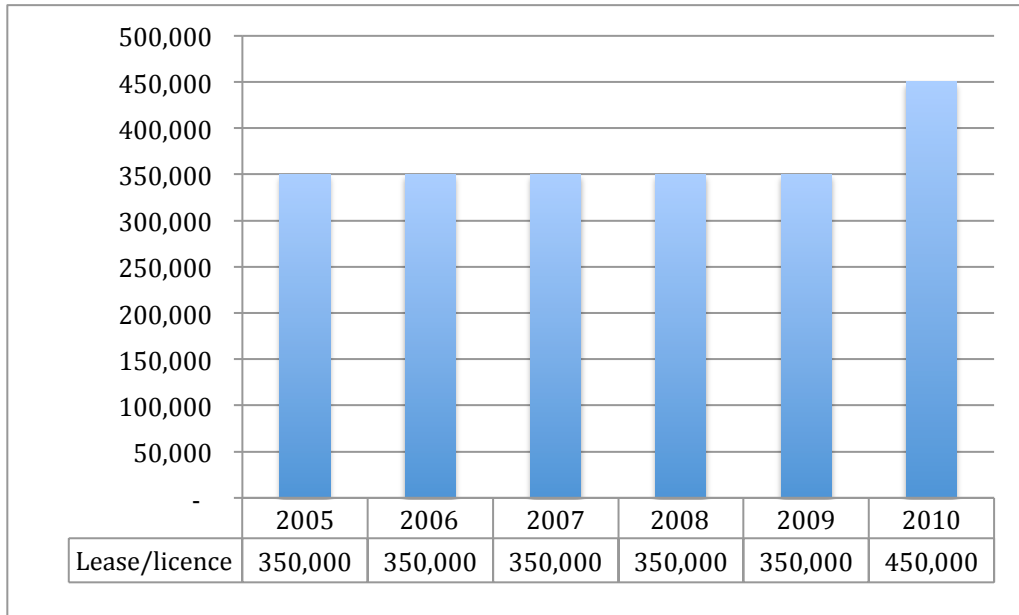
Geoduck	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	23	62,500	1,437,500
Modern Style	16	187,500	3,000,000
<i>Total</i>	39	113,782	4,437,500

Licensing Trends

Recent G Licence Valuations (\$ millions)

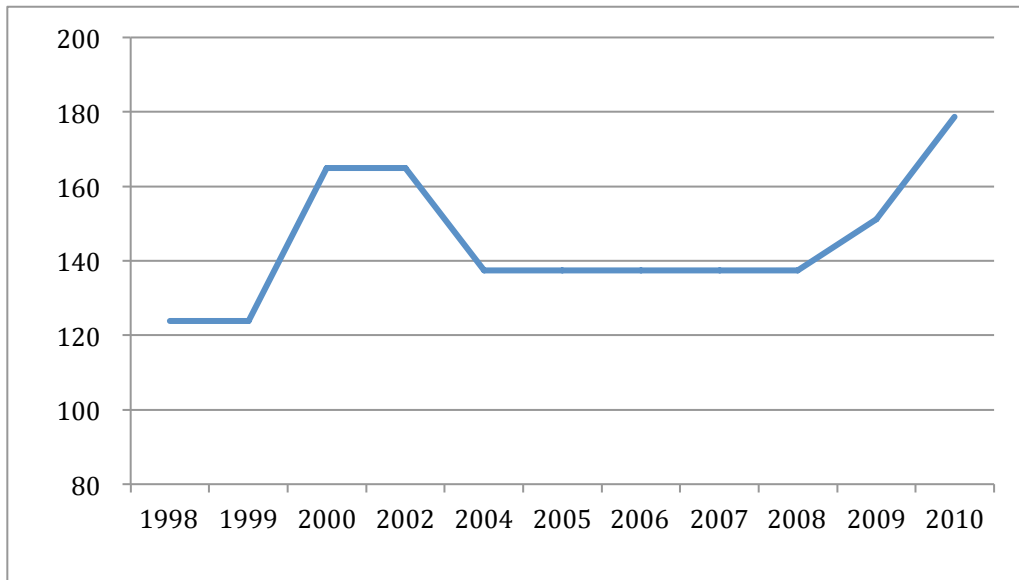


Recent G Licence Lease Rates (\$)



A lease rate of \$450,000 is pegged for G licences. The increase from prior years is based on higher revenues arising from improved fish prices. A variety of leasing and a scarcity of quality information make a precise valuation difficult.

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

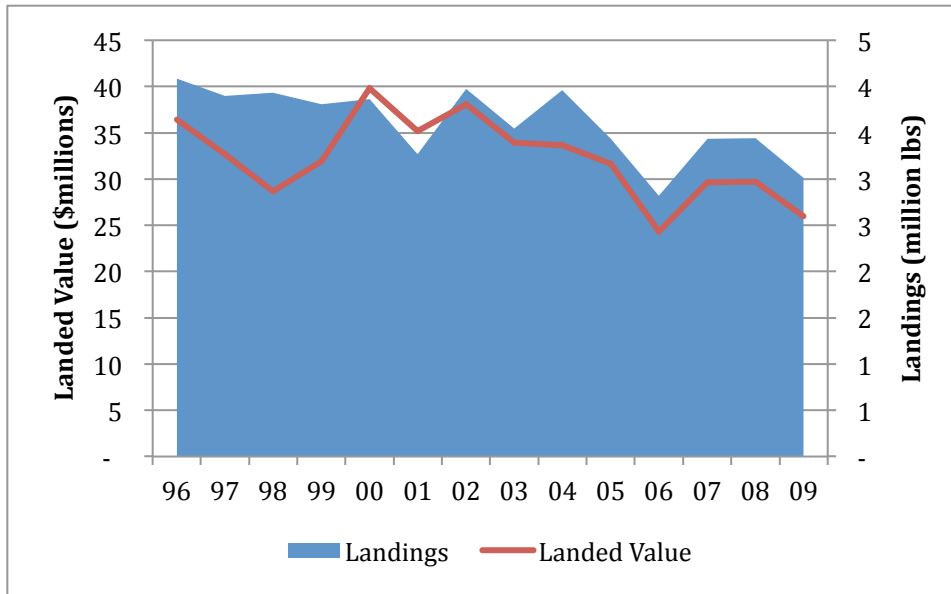


G Licence Counts by Category

No chart shown: all 55 licences are category G.

Geoduck Landings & Landed Value Trends

Source: DFO Catch Stats



Outlook

- Geoduck prices rose appreciably in 2010 from 2009 levels, enhancing the profitability of operations.
- Lack of access to capital for potential purchasers remains an impediment to a higher frequency of transactions. Fishing licences are not considered strong security by potential lenders, and few potential purchasers can summon the funds to purchase a G licence.
- Growth in Mexican geoduck exports is a concern. BC geoduck marketers are focusing on product quality in order to differentiate themselves in the marketplace.
- The primary challenges to continued resource access are the potential proliferation of marine parks and protected areas, thus displacing geoduck fishing grounds, and the growth in sea otter populations. Sea otter predation on the West Coast of Vancouver Island has already caused some geoduck licences to re-locate to other areas.
- Stock enhancement activities by the Underwater Harvester’s Association are intended to offset resource access erosion as described above.

Shrimp-by-Trawl

General Description

<i>Licence Designation</i>	S
<i>Nature of Licence</i>	Vessel based – vessel owner may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	232
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	13 (FS designation, Party-based)
<i>Licensing/Management Framework</i>	Fishery managed on basis of specie quotas by area (shrimp management areas). Areas are closed to fishing once a specie harvest is reached in a given area. Only one S (or FS) licence per vessel allowed.
<i>Additional Information</i>	Competitive fishery. Poor markets for pink shrimp in recent years have meant that the majority of the licensed fleet has not participated in the fishery. Vessel based licence virtually precludes licence leasing. Vessel-based licence allows harvest of Schedule II species and transporting (packing).

Valuation Parameters

Valuations performed:	S licence (per foot) Vessels
Amount of trading activity underlying valuation:	Few transactions reported
Confidence in valuation:	Low to moderate

Current Valuation

Licence Value at March 31, 2010

Category	# Licences	Value/ Foot (\$)	Total Value (\$)
S Licences	232	450	4,280,400

Valuation Comments

- Average licence pegged at \$18,450 (\$450/ft x 41 foot average vessel length). Licence values range from \$300-550 per foot.
- The continued low level of transactions, at low valuations, is a reflection of the poor results and prospects in this fishery.

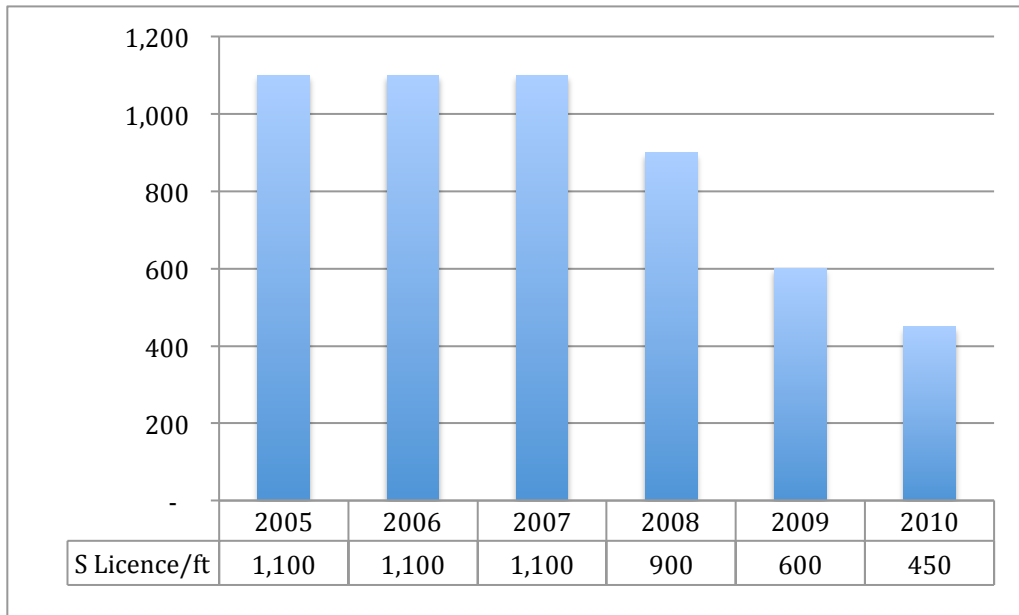
Vessel Value

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.

Shrimp Trawl	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	157	42,857	6,728,571
Modern Style	67	133,333	8,933,333
<i>Total</i>	224	69,919	15,661,905

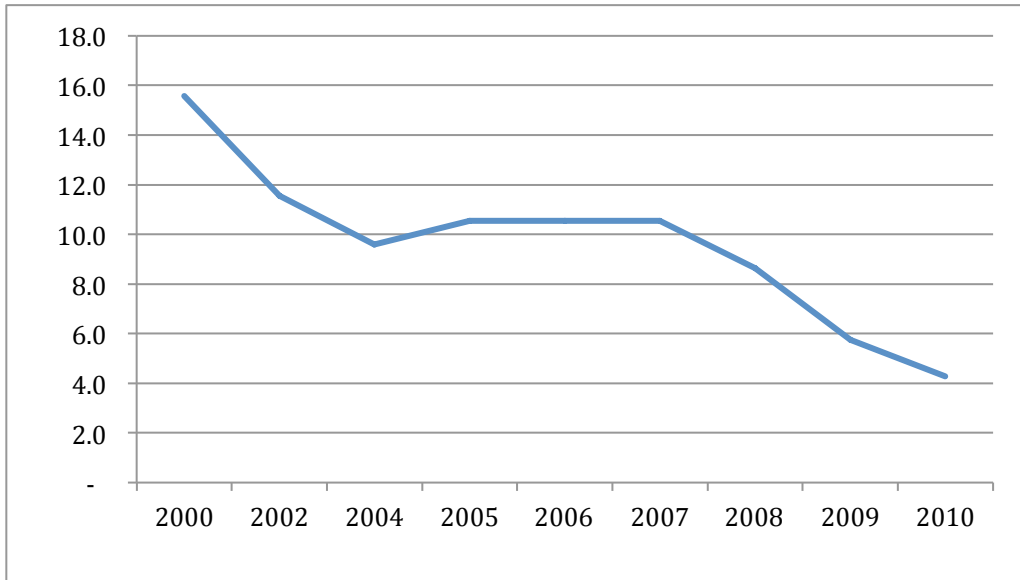
Licensing Trends

Recent S Licence Valuations (\$)

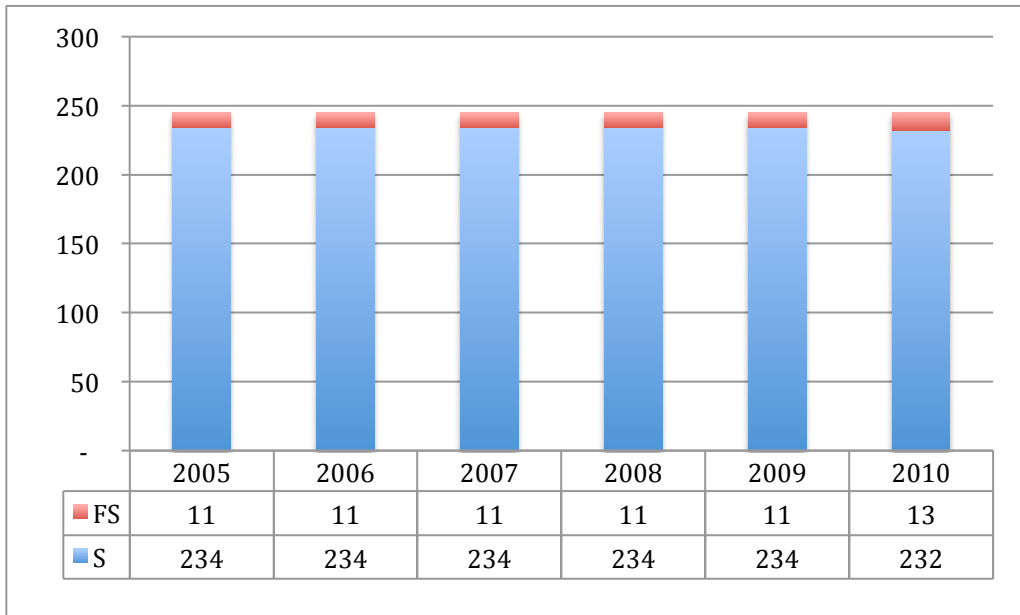


PACIFIC FLEET LICENCE, QUOTA, AND VESSEL VALUATION: AT MARCH 31, 2010

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

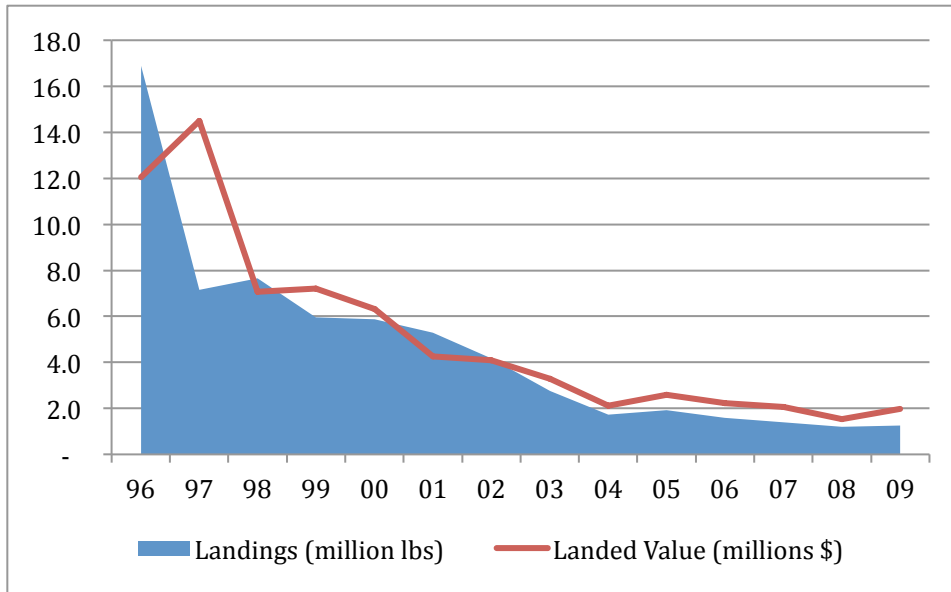


S Licence Counts by Category



Shrimp Landings & Landed Value Trends

Source: DFO Catch Stats



Outlook

- The fundamentals of the shrimp fishery continue to be poor. Only a small portion of the fleet actively participates in the fishery.
- Shrimp is a labour intensive fishery and product prices are low.
- International competition is strong.
- Industry has yet to devise and implement a turnaround strategy to improve the prospects for this fishery.

Prawn-by-Trap

General Description

<i>Licence Designation</i>	W
<i>Nature of Licence</i>	Vessel based – vessel owner may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	216
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	36 (FW designation, Party-based)
<i>Licensing/Management Framework</i>	Fishery managed by time and area, with trap limits (300 traps per vessel). Licence stacking – additional traps may be placed on a W licensed vessel, allowing a total of 500 traps to be deployed.
<i>Additional Information</i>	Competitive fishery. Licence (trap) stacking provision creates a licence lease market. May retain octopus. Vessel-based licence allows harvest of Schedule II species and transporting (packing).

Valuation Parameters

Valuations performed:	W licence (per foot) Annual lease rate (per licence) Vessels
Amount of trading activity underlying valuation:	Moderate activity in the licence market Leasing activity is moderate
Confidence in valuation:	Moderate (transactions). A more confident valuation is confounded by the fact that multiple assets are often involved and apportionment of values can be arbitrary. High (lease)

Current Valuation

Licence Value at March 31, 2010

Category	# Licences	Value/Foot (\$)	Total Value (\$)
W Licences	216	15,000	118,260,000

Valuation Comments

- Average licence value pegged at \$547,500 (\$15,000/ft x 36.5 foot average vessel length). Licence values range from \$14,000-17,000 per foot.
- Many view prawn licence values on a per-licence (rather than per-foot) basis; licences tend to be in the \$550,000 ballpark, regardless of length. This implies a higher per-foot value for shorter licences than longer one.
- With poor fishing experienced early in the 2010 season, values are reported to have softened after the valuation (to less than \$15,000 per foot).
- Fewer open market transactions were unearthed than in prior years. PICFI/ATP were reasonably active, with 7 retirements in the valuation period.

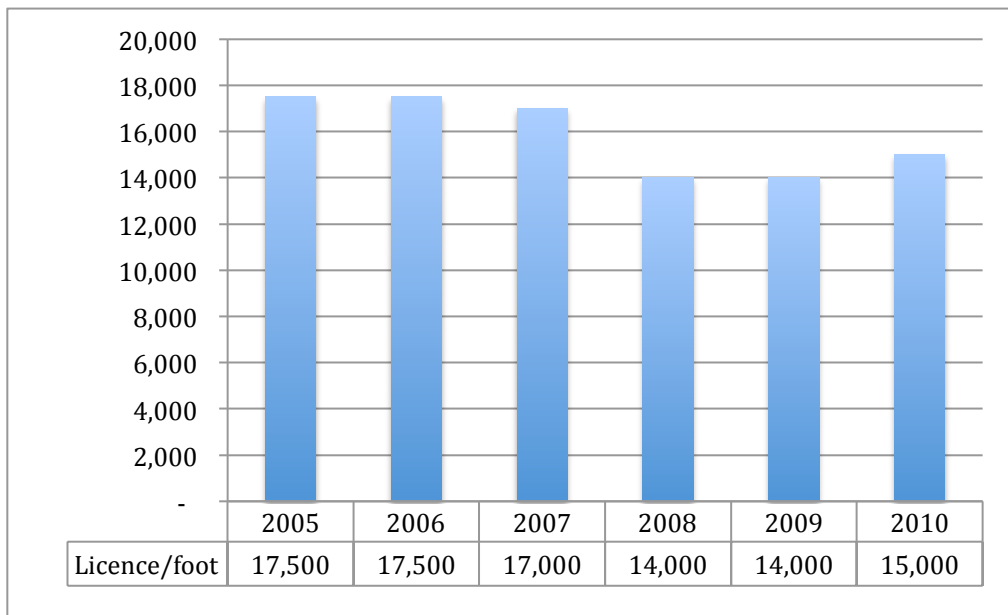
Vessel Value

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.

Prawn	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	113	110,000	12,430,000
Modern Style	114	230,000	26,220,000
<i>Total</i>	227	170,264	38,650,000

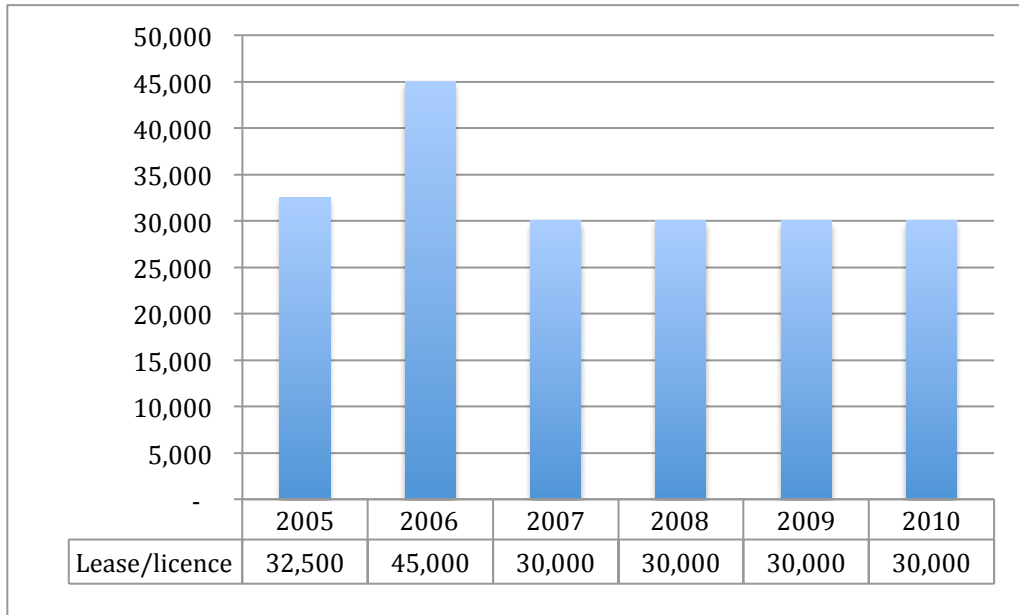
Licensing Trends

Recent W Licence Valuations (\$)



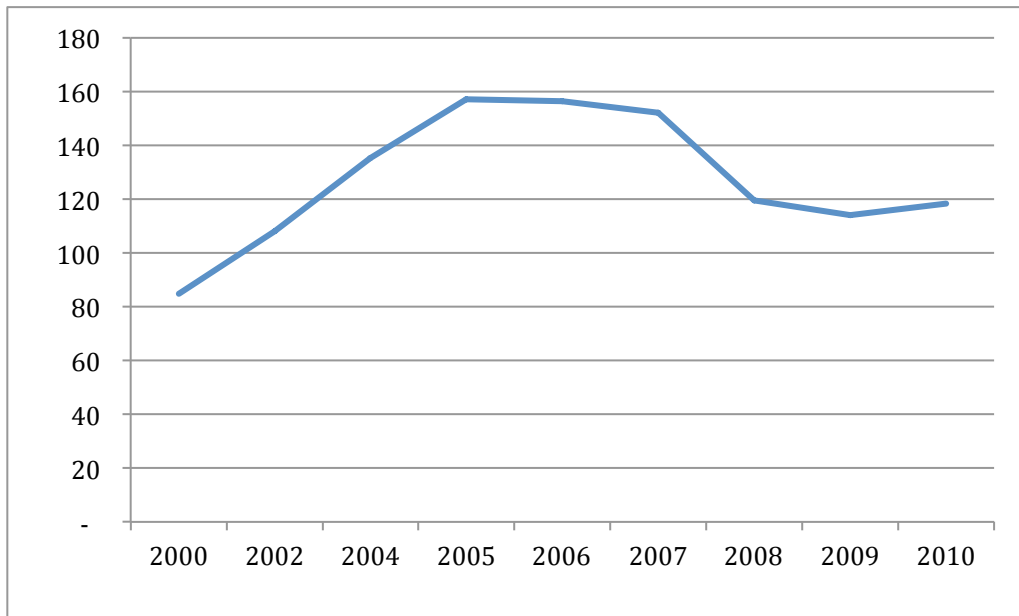
The drop in values in 2008 is linked to a reduction in BC spot prawn prices in the Japanese market. Licence values rose slightly in 2010, partly in response to a record catch of prawns in the 2009 season.

Recent W Licence Lease Rates (\$)

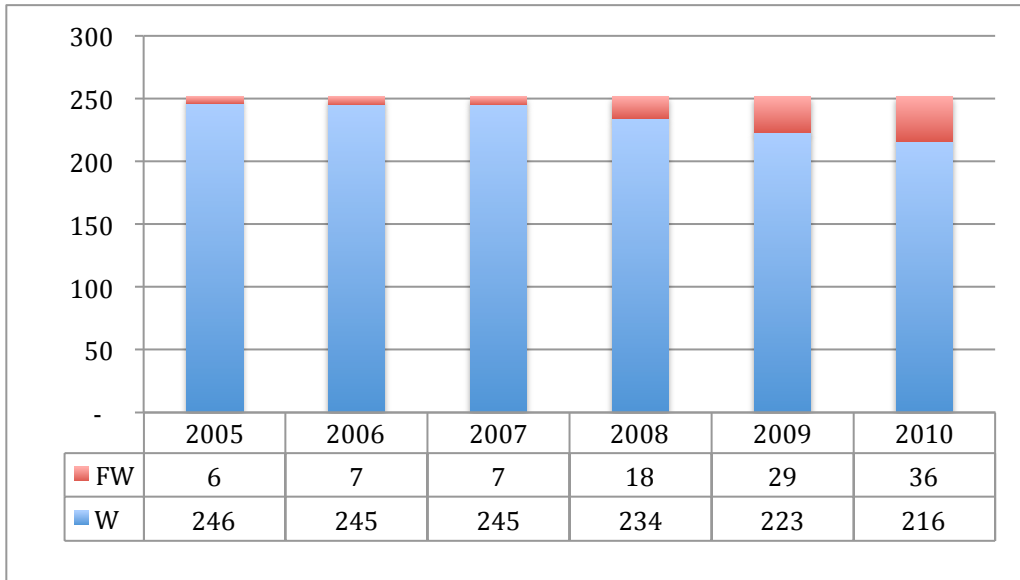


Lease rate in 2010 is pegged at \$30,000 per licence. Lease rates range from \$25,000-35,000.

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

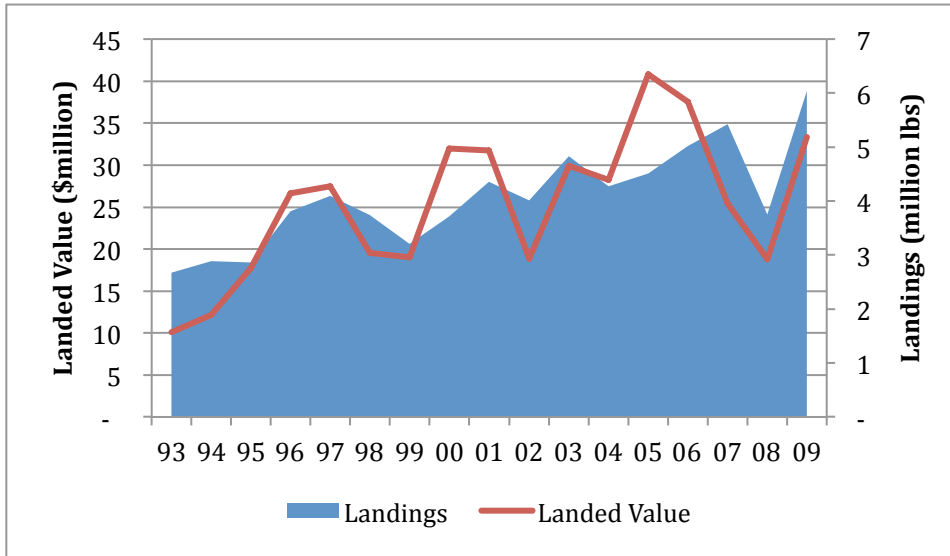


W Licence Counts by Category



Prawn Landings & Landed Value Trends

Source: DFO Catch Stats



Outlook

- The harvest volume in the 2010 fishery appears to be down significantly from the record level of 2009, especially in the Strait of Georgia area.
- Prices for the 2010 season have not rebounded in spite of lower volumes, and appear to be in the \$4.00-6.00 range.
- As prices have softened, strong landings levels have kept revenues healthy in the prawn fishery—until 2010. The future landings level is unknown.
- BC spot prawns are recognized as a sustainable fishery by certain eco-groups, creating marketing opportunities.
- Growth in recreational sector prawn fisheries are a concern for the commercial sector.

Groundfish Trawl

General Description

<i>Licence Designation</i>	T
<i>Nature of Licence</i>	Vessel based – vessel owner may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	141
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	1 (FT designation, Party-based)
<i>Licensing/Management Framework</i>	Individual quotas – about 50 quotas based on species and areas – complex system. 80% of quota allocated to vessels as IVQ, and 20% allocated to vessels via the Groundfish Development Authority (see Management Plan). Quotas divisible and transferable amongst T licensed vessels on a temporary or permanent basis.
<i>Additional Information</i>	100% at sea observer coverage, 100% offload monitoring coverage. Each T licence has a unique holdings cap, which influences licence value. Vessel-based licence allows harvest of Schedule II species and transporting (packing).

Valuation Parameters

Valuations performed:	T licence Quota values per pound: <ul style="list-style-type: none"> ▪ Uncut quota ▪ Offshore hake ▪ Gulf hake ▪ Arrowtooth flounder Lease rate per pound for above quotas Vessels
Amount of trading activity underlying valuation:	Very few licence or quota transactions during the valuation period High (lease)
Confidence in valuation:	Low for all categories due to a lack of transactions Moderate (leases)

Current Valuation

Licence and Quota Value at March 31, 2010

Category	# Licences/ lbs quota, thousands	Value per Foot/ lb quota (\$)	Total Value (\$ thousands)
T	139	\$600	5,254
Uncut quota	89,383	\$1.25	111,729
Hake outside	148,167	\$0.65	96,308
Hake gulf	20,496	\$-	-
Arrowtooth	33,069	\$-	-
Total Value			213,292

Valuation Comments

- Average licence value pegged at \$37,800 (\$600 per foot x 63 foot average vessel length). Licence values range from \$500-700 per foot, depending on length, the holdings cap associated with the licence, and the needs of the parties.
- Licence values are down this year; vessel length is less important since more liberal length allowances have been granted.
- Uncut quota value pegged at \$1.25 per pound, with few transactions observed.
- Hake quota (offshore) value pegged at \$0.65 per pound, with transactions in the \$0.60-0.70 range. Sales volume was light.
- Arrowtooth flounder and gulf hake are accorded no value, since there appears to be no current market for these species.
- Soft asset values in 2010 are reflective of continued challenging market and financial conditions prevailing in this fishery.

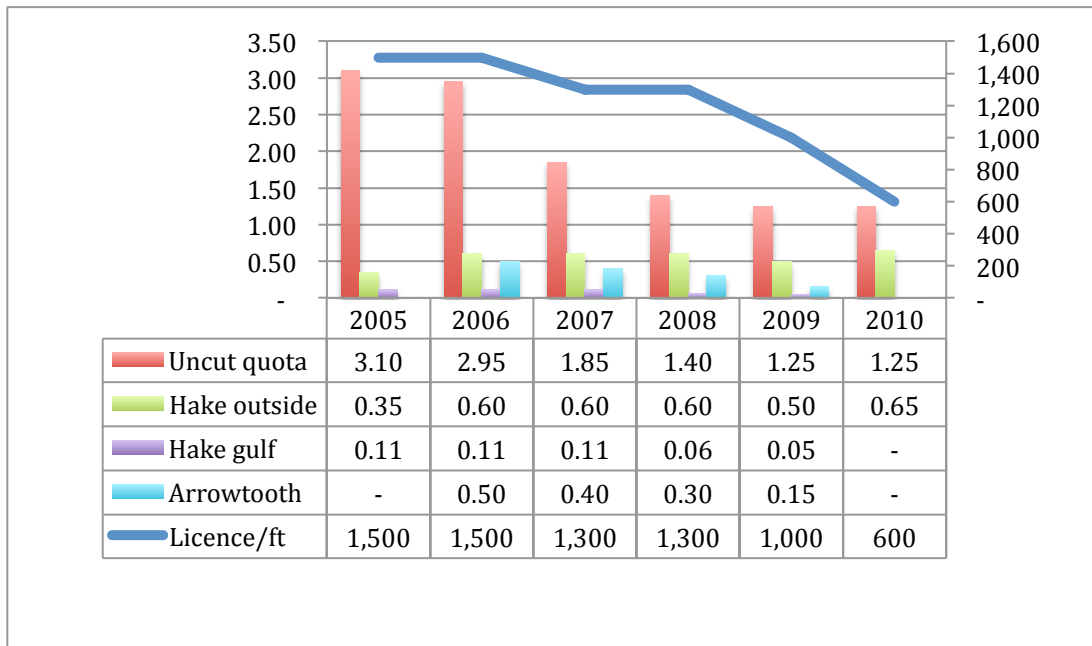
Vessel Value

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.

Trawl	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	68	440,000	29,920,000
Modern Style	69	1,125,000	77,625,000
<i>Total</i>	137	785,000	107,545,000

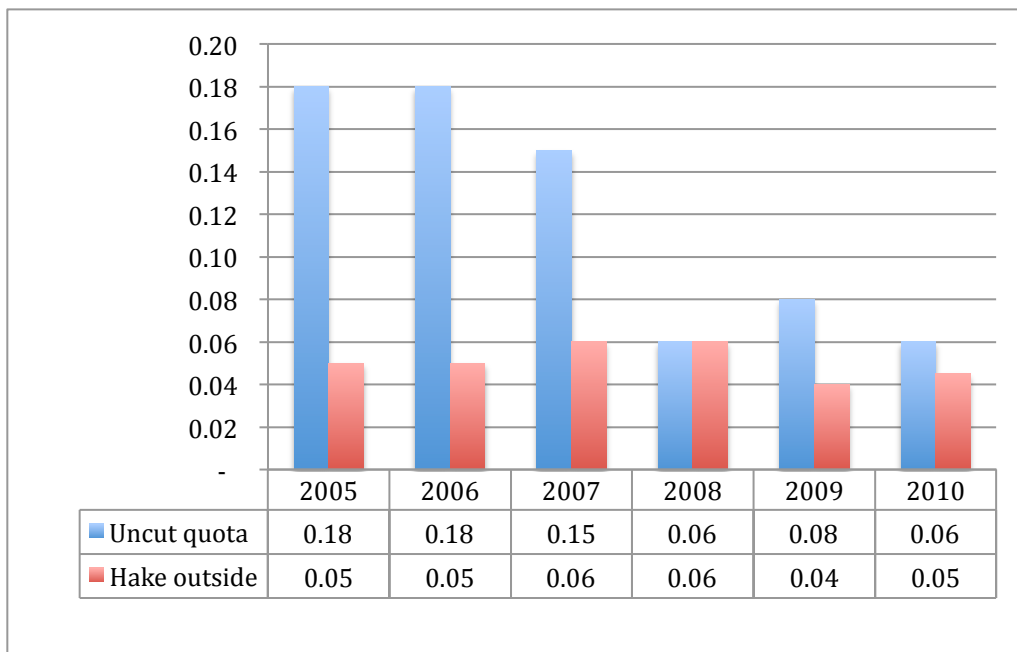
Licensing Trends

Recent T Licence and Trawl Quota Valuations (\$)



- Gulf hake and Arrowtooth flounder (turbot) are accorded virtually no value presently. Market conditions have rendered target fisheries on these species un-economic. Gulf hake was formerly considered for surimi production, but this processing activity has all but ceased.

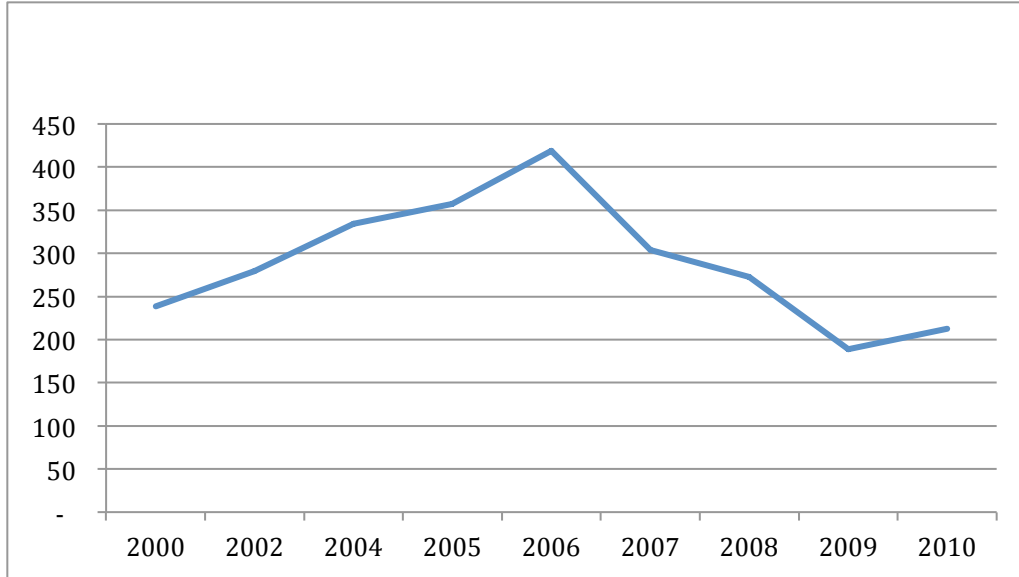
Recent Trawl Quota Lease Rates (\$ per lb)



PACIFIC FLEET LICENCE, QUOTA, AND VESSEL VALUATION: AT MARCH 31, 2010

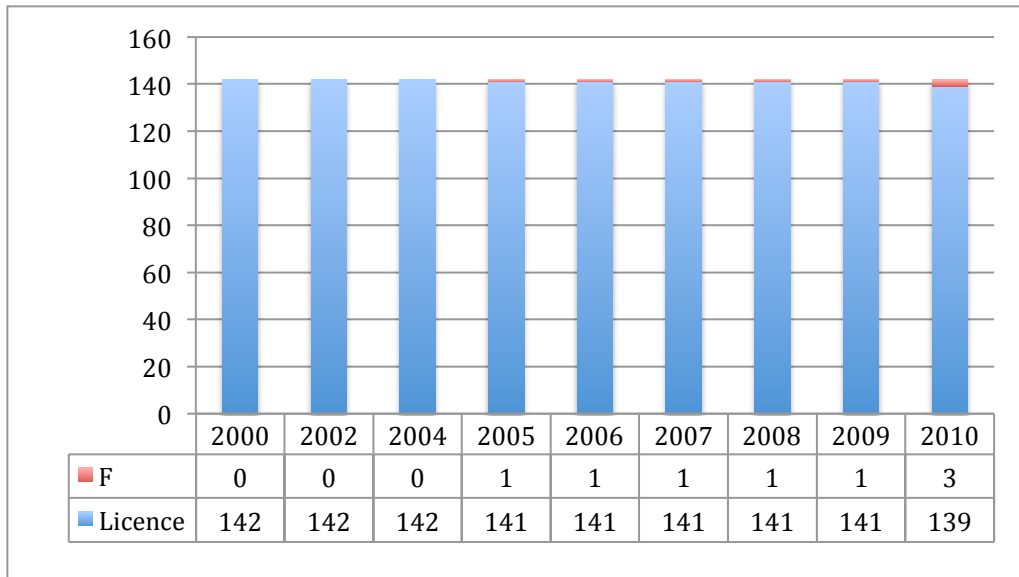
- Uncut quota leases for 2010 ranged from 5-10 cents.
- Hake quota leases ranged from 4-6 cents per pound. Joint venture hake lease prices (a small portion of the quota) were in the 8-cent range.

Aggregate Value of T Licences and Trawl Quota (\$ millions by year)³



The uptick seen in 2010 is due to a firming hake quota price.

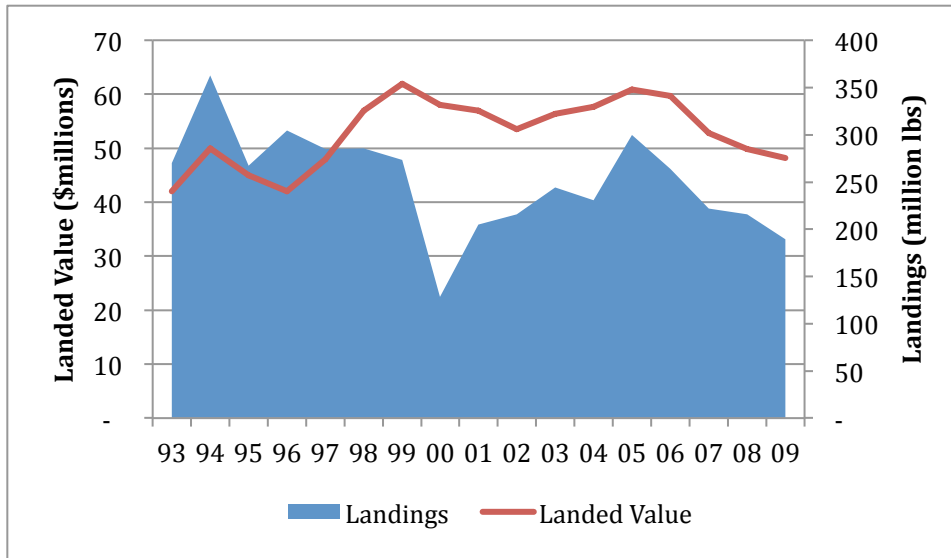
Licence Counts by Category



³ 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

- The groundfish trawl fishery continues to be negatively impacted by a host of factors, including:
 - Strong competition in the USA marketplace, especially from farmed whitefish species such as tilapia and basa.
 - A strong Canadian dollar relative to the USA currency.
 - High fuel prices.
- The trawl industry remains concerned about potential effects of COSEWIC/SARA listings. Severe constraints on certain bottomfish species could impair catches of target species.
- A paper released in 2010 found that the economic contribution of the trawl fishery to coastal communities and other commercial fisheries (through supporting crucial infrastructure) is substantial (Economic Impacts From a Reduced Groundfish Trawl Fishery in British Columbia – Gislason et al).
- Hake received MSC certification in 2009, confirmation of a sustainable management approach, and a potential marketing advantage for the future.

Crab

General Description

<i>Licence Designation</i>	R
<i>Nature of Licence</i>	Vessel based – vessel owner may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	200
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	21 (FR designation, Party-based)
<i>Licensing/Management Framework</i>	Area Licensing – 7 areas. No stacking allowed – must select a single area. Area re-selection periodically; a re-selection took place applying for the 2010-2012 seasons. Fishery managed on basis of time, area, size, sex, and trap limits (limits vary by area)
<i>Additional Information</i>	Competitive fishery. Currently, the resource and market situation is reasonably healthy. Area A (QCI/Hecate Strait) is the predominant area in terms of landings and landed value. Vessel licence allows harvest of Schedule II species and transporting (packing). Vessel-based licence virtually precludes licence leasing, though a small market is emerging for FR (commercial communal party-based) licences.

Valuation Parameters

Valuations performed:	R licence Vessels
Amount of trading activity underlying valuation:	This is an active category
Confidence in valuation:	Moderate—precise valuations are difficult because of multi-areas and uncertain apportionment of asset values.

Current Valuation

Licence Value at March 31, 2010

Category	# Licences	Value/Foot (\$)	Total Value (\$)
R Licences	200	16,000	102,400,000

Valuation Comments

- Average licence value pegged at \$512,000 (\$16,000 per foot x 32 foot average vessel length). Licence values range from \$14,000-20,000 per foot.
- Many view crab licences on a per-licence (rather than per-foot) basis.
- Area A licences were deemed to be in the \$15,000/foot range, while other areas were estimated to be in the \$18,000/foot bracket.
- This is generally a category with a wealth of open-market transactions, though volume was noticeably lower this year than in prior years.

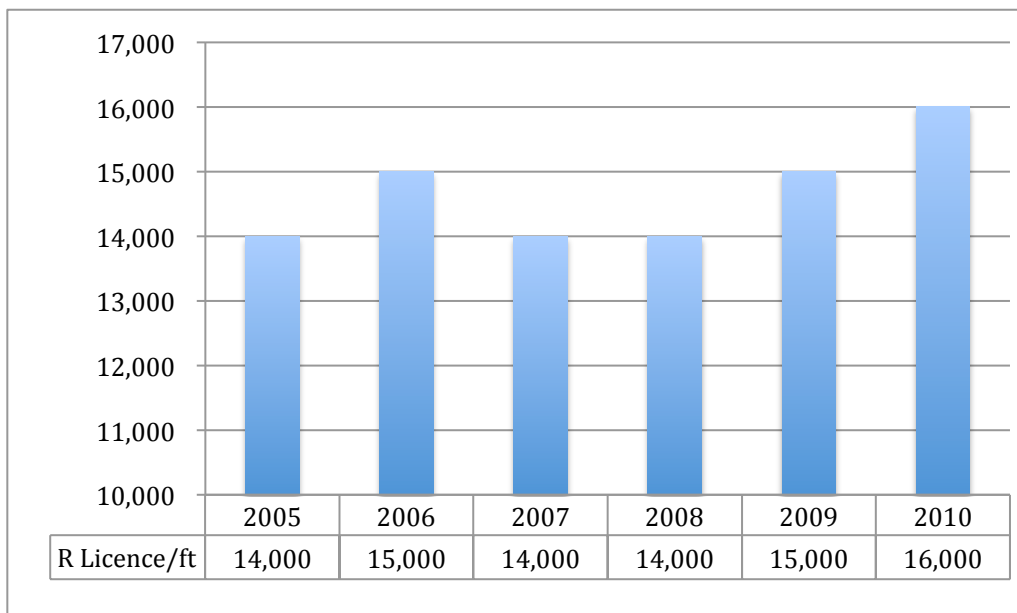
Vessel Value

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.

Crab	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	86	81,250	6,987,500
Modern Style	130	366,667	47,666,667
<i>Total</i>	216	253,029	54,654,167

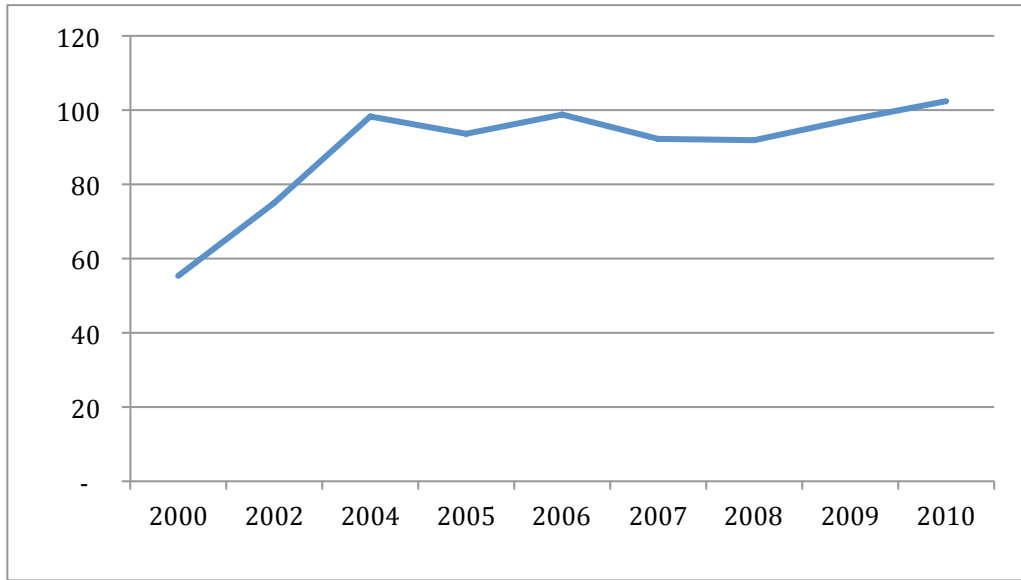
Licensing Trends

Recent R Licence Valuations (\$)

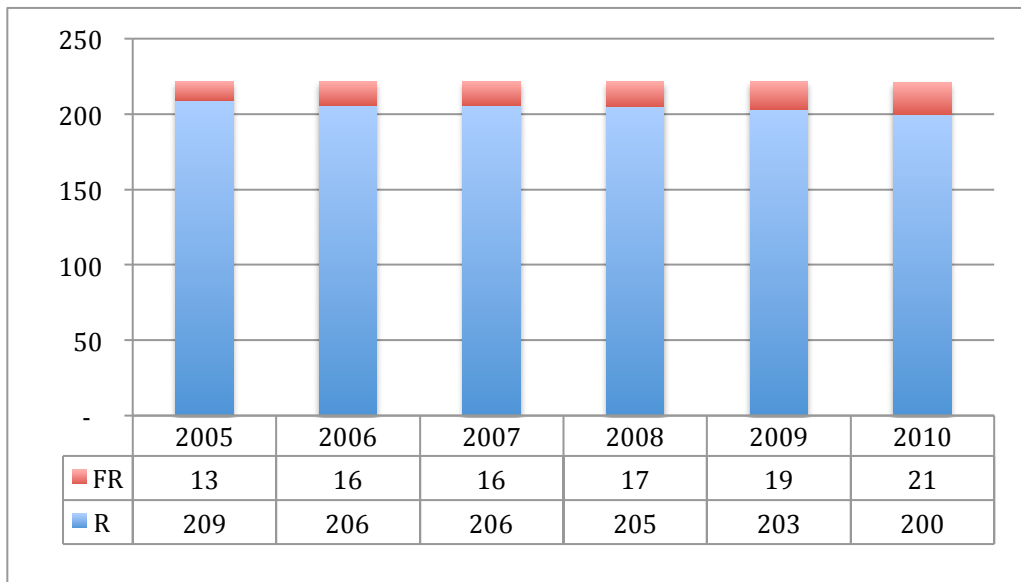


PACIFIC FLEET LICENCE, QUOTA, AND VESSEL VALUATION: AT MARCH 31, 2010

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

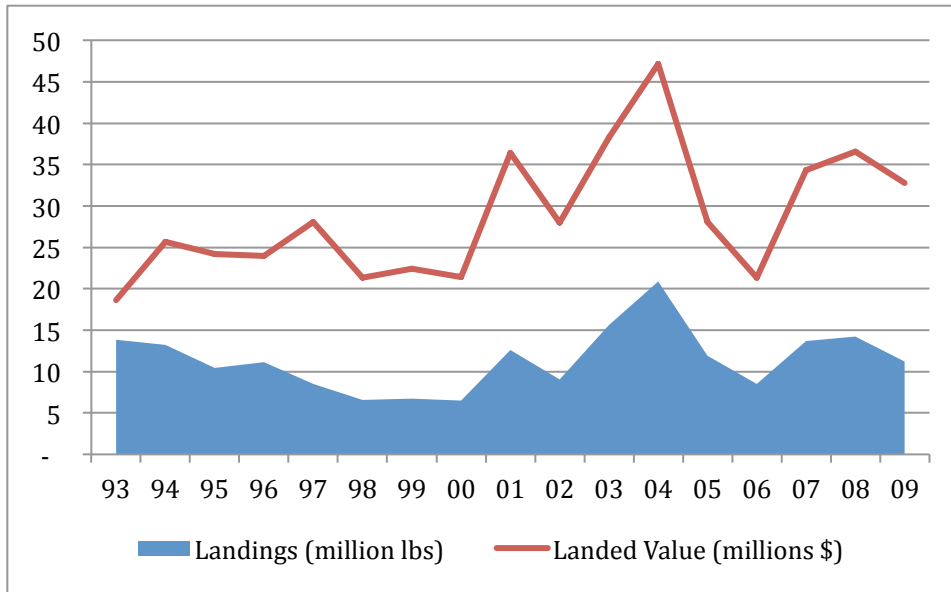


Licence Counts by Category



Crab Landings & Landed Value Trends

Source: DFO Catch Stats



Outlook

- Markets for Dungeness crab are generally healthy. The product is consumed in many markets worldwide.
- There is an active market for crab licences, reflecting optimism amongst participants that a living can be forged from crab fishing.
- There are seven distinct management areas in the crab fishery and no cohesive industry organization, making the industry somewhat fractured. Area re-selections provide flexibility for licence holders to move between management areas, but compromise stability in each of the areas.
- From a conservation perspective, DFO is concerned about illegal harvest of undersize crabs in certain areas.
- Management tools to limit commercial fishing effort are being investigated and may include reductions in vessel and trap limits.
- A process to review the crab management framework is underway.

Sea Cucumber

General Description

<i>Licence Designation</i>	ZD
<i>Nature of Licence</i>	Party based – individual, corporation, or band may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	85
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	0
<i>Licensing/Management Framework</i>	Quota management – each licence receives 1/85 of the allowable catch – 14,615 pounds (split weight) per licence under the current fishing plan Area Licensing – 4 areas: North, Central, WCVI, St. of Georgia Stacking allowed – maximum 5 licences per vessel
<i>Additional Information</i>	Quotas not divisible. Allowed harvest is set on a fixed precautionary rate: 4.2% of the estimated biomass; this has allowed for steadily growing quotas. Currently 33 vessels operating the 85 licences.

Valuation Parameters

Valuations performed:	ZD licence Annual lease rate Vessels
Amount of trading activity underlying valuation:	None (transactions) Low (lease)
Confidence in valuation:	Low (transactions) Low (lease)

Current Valuation

Licence Value at March 31, 2010

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
ZD Licences	85	300,000	25,500,000

Valuation Comments

- Valuation pegged at \$300,000 based on anecdotal information. Estimates of value range from \$300,000-\$350,000.

PACIFIC FLEET LICENCE, QUOTA, AND VESSEL VALUATION: AT MARCH 31, 2010

- Sea cucumber is a tightly knit, tightly held category. Valuation intelligence is difficult to gather.

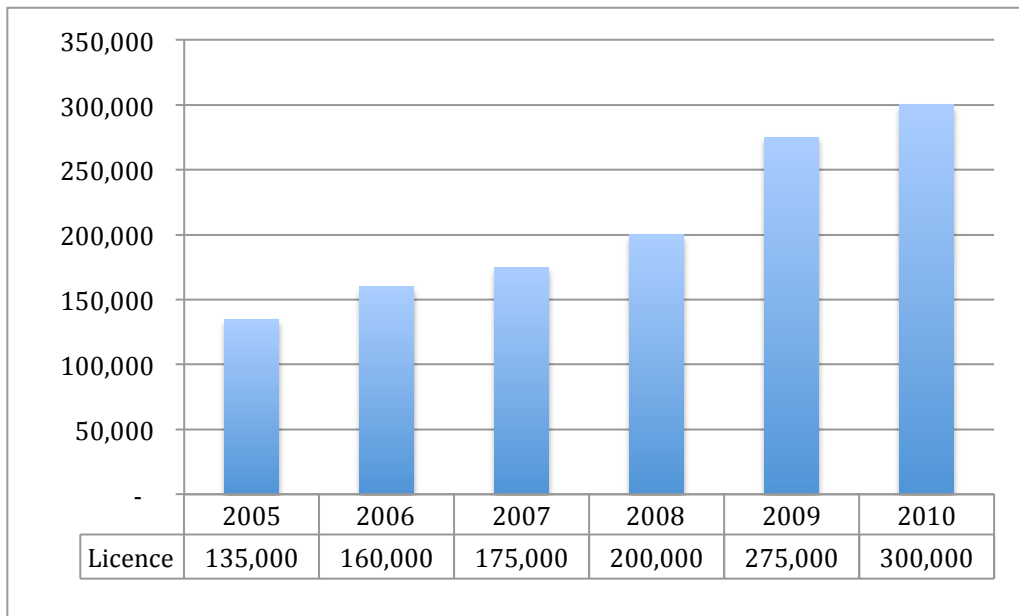
Vessel Value

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.

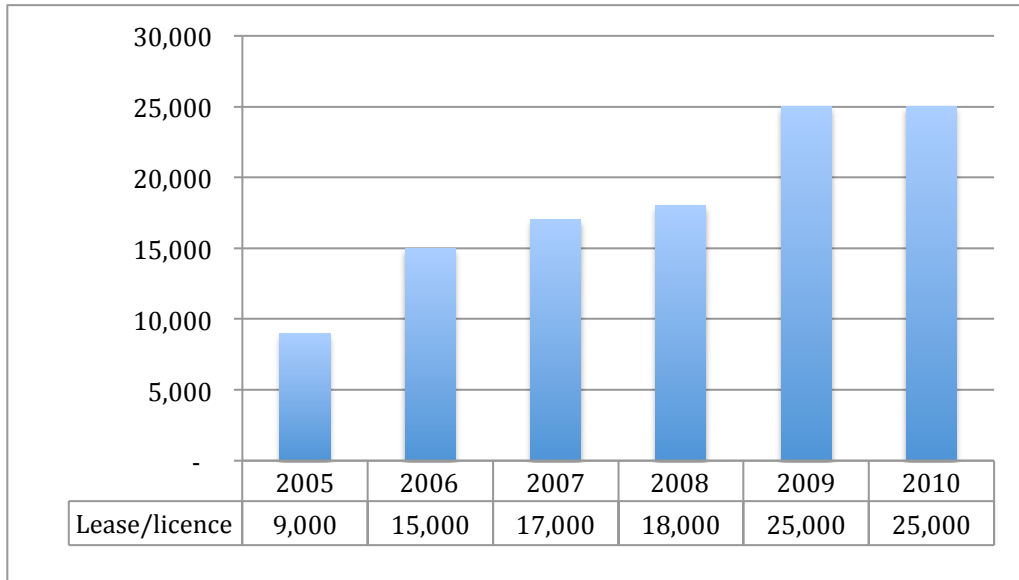
Sea Cucumber	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	11	65,625	721,875
Modern Style	17	187,500	3,187,500
<i>Total</i>	28	139,621	3,909,375

Licensing Trends

Recent ZD Licence Valuations (\$)

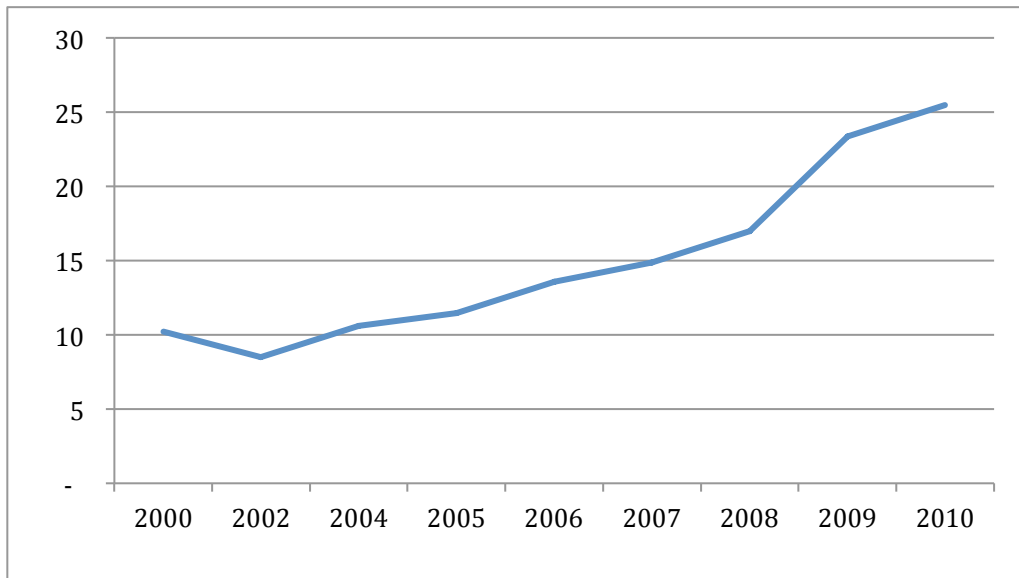


Recent ZD Licence Lease Rates (\$)



- Lease price for 2010 pegged at \$25,000. Some transactions may have been in the \$30,000 range. Some lease are profit sharing arrangements.

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

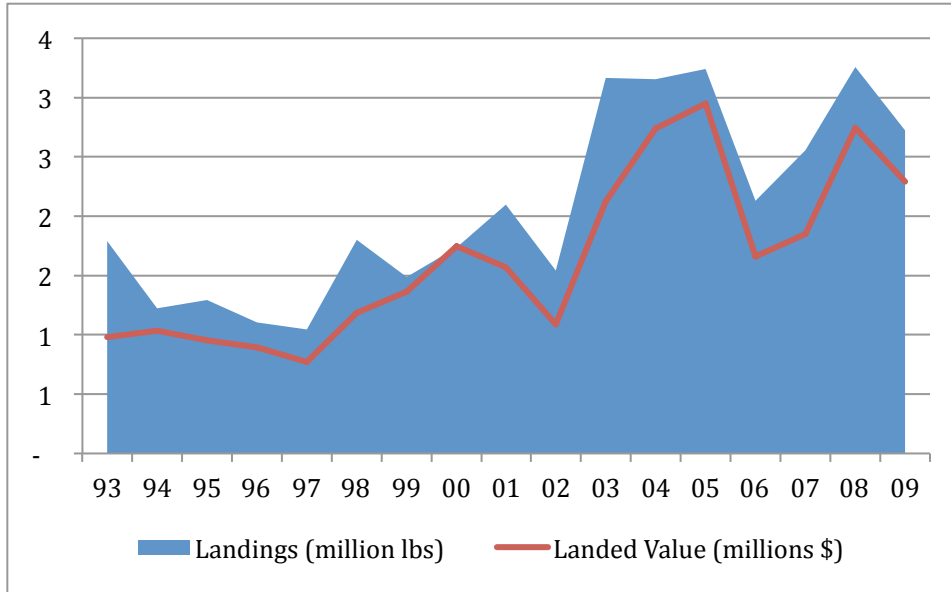


ZD Licence Counts by Category

No chart shown: all 85 licences are category ZD.

Sea Cucumber Landings & Landed Value Trends

Source: DFO Catch Stats



Some of the peaks and valleys in the trend chart may be related to incomplete data. A very gradually ascending trend line would better represent developments in the fishery.

Outlook

- Although a relatively small fishery in absolute terms, the sea cucumber industry has done an admirable job of improving both landings and values of the past several years.
- Quotas tend to be fully utilized, and no compliance issues have arisen in recent years.
- Continued conservative management combined with stock assessment work and improving product care are keys to future success.

Red Sea Urchin

General Description

<i>Licence Designation</i>	ZC
<i>Nature of Licence</i>	Party based – individual, corporation, or band may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	86
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	24 (FZC designation – Party-based)
<i>Licensing/Management Framework</i>	Quota management – average quota per licence for the 10/11 season approx 91,500 lbs; total quota approx 10 million lbs. Area Licensing – north and south coast. Quota for each area divided by the number of licences in the area to determine per-licence quotas. Stacking allowed – maximum 5 licences per vessel.
<i>Additional Information</i>	Quotas not divisible. Currently 30 vessels fishing ZC licences. A lottery process is used for annual area selection.

Valuation Parameters

Valuations performed:	ZC licence Annual lease rate Vessels
Amount of trading activity underlying valuation:	Low (transactions) Low (lease)
Confidence in valuation:	Low (transactions) Low-Med (lease)

Current Valuation

Licence Value at March 31, 2010

Category	# Licences	Value/Licence (\$)	Total Value (\$)
ZC Licences	86	35,000	3,010,000

Valuation Comments

- Licence value is pegged at \$35,000 based on anecdotal information.
- No transactions were uncovered this year in the open market while PICFI retired four licences.
- This is a depressed fishery that stimulates little transaction volume.

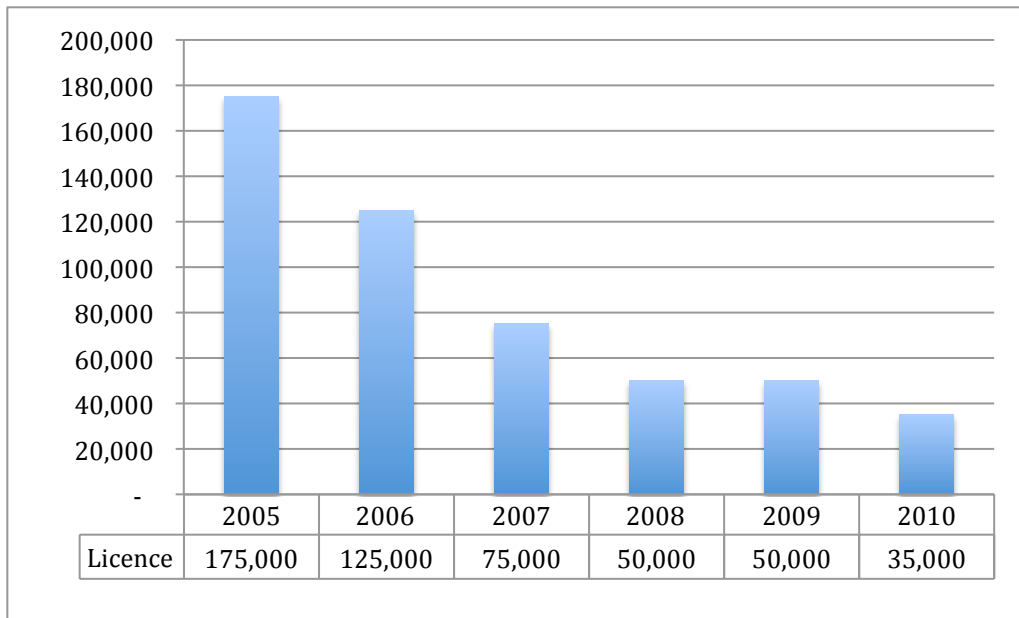
Vessel Value

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.

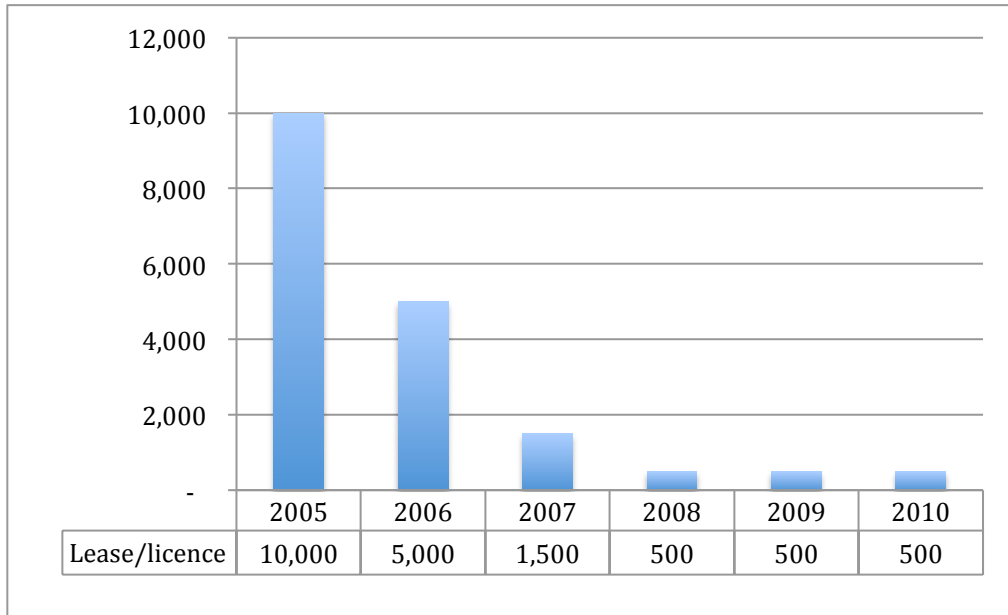
Red Sea Urchin	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	12	65,625	787,500
Modern Style	18	187,500	3,375,000
<i>Total</i>	30	138,750	4,162,500

Licensing Trends

Recent ZC Licence Valuations (\$)

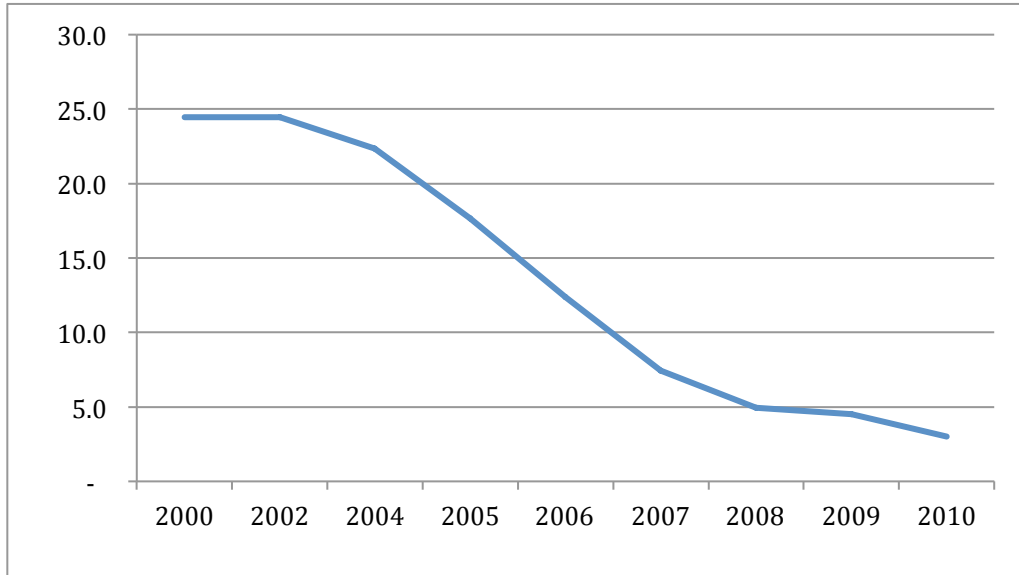


Recent ZC Licence Lease Rates (\$)



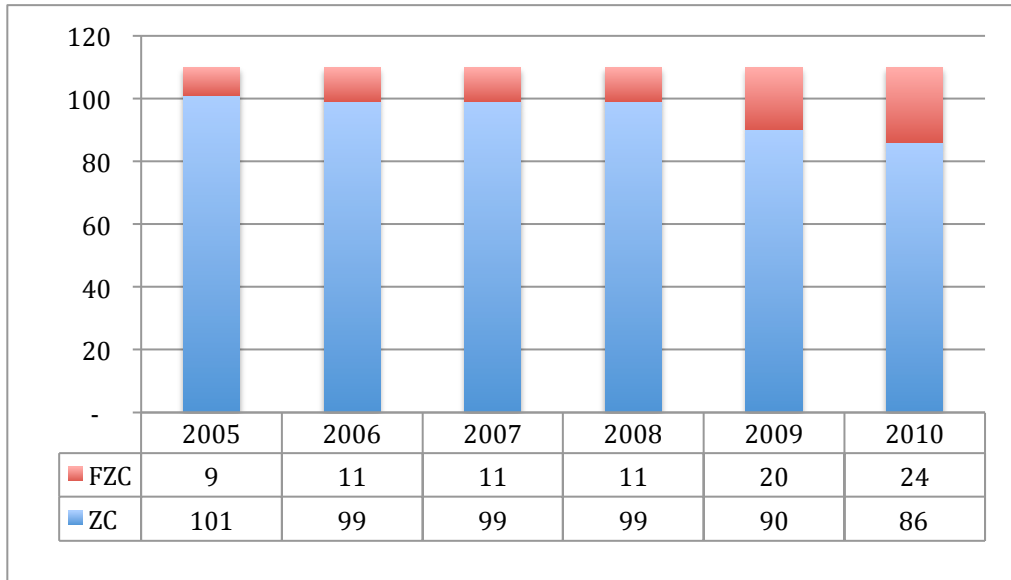
Lease rate is pegged at \$500 for 2010. Some licences are let at no cost (merely licence fees). Even at a negligible lease rate, many licences were unutilized (or partially utilized) in 2010.

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



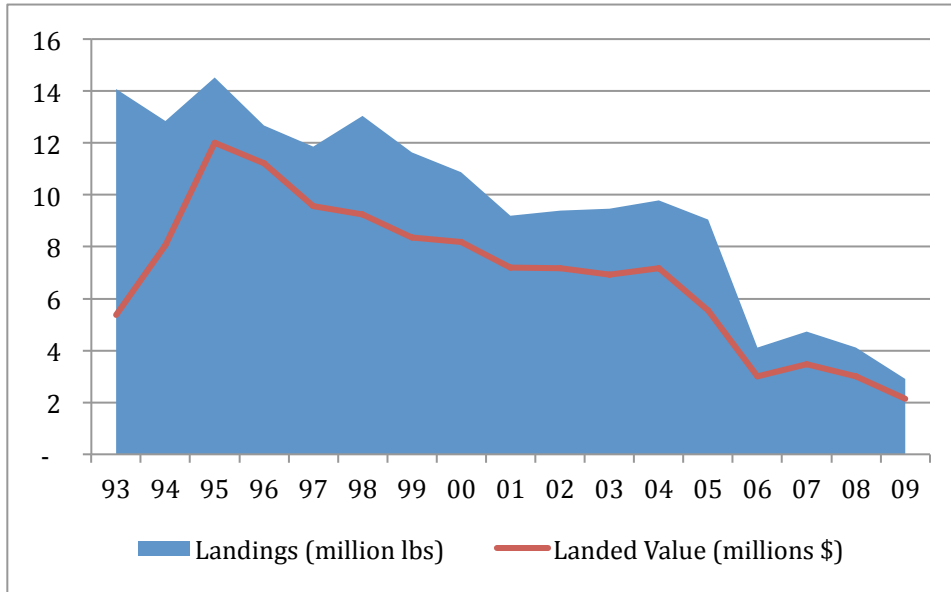
- The reduction in market value for ZC licences is mostly related to the reduction in licence value, but also to the declining number of licences (as the pool of F licences grows).

ZC Licence Counts by Category



Red Sea Urchin Landings & Landed Value Trends

Source: DFO Catch Stats



Outlook

- Red sea urchin remains a depressed fishery.
- A glut of product imported by Japan from the Russian “IUU” fishery (illegal, un-regulated, un-reported) remains the largest challenge to the BC industry.
- It is uncertain how/when/if the current market flux will be resolved.
- The TAC is only partially harvested, as poor prices and marketability curb harvester’s ability to prosecute the fishery.
- Urchin stocks are currently healthy and the fishery is considered well-managed; stakeholders express frustration that, despite demonstrating a high level of resource stewardship, their industry is being undermined by external (illegal) forces.
- Industry remains concerned about the impact of sea otters on urchin stocks in areas where otter recovery has been successful.
- There are no overall concerns about red urchin stock levels.

Green Sea Urchin

General Description

<i>Licence Designation</i>	ZA
<i>Nature of Licence</i>	Party based – individual, corporation, or band may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	49
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	0
<i>Licensing/Management Framework</i>	Quota management – each licence receives an equal share of the TAC – 9,126 pounds per licence under current fishing plan (447,174 lbs coastwide). Area Licensing – the bulk of quota is allocated to five areas (in the Johnstone Strait and lower Strait of Georgia) Stacking allowed – maximum 5 licences per vessel.
<i>Additional Information</i>	The fishing season is Sept 1 to August 31. Quotas not divisible Currently 19 vessels (est.) fishing 49 licences.

Valuation Parameters

Valuations performed:	ZA licence Annual lease rate Vessels
Amount of trading activity underlying valuation:	Low (transactions) Low (lease)
Confidence in valuation:	Low (transactions) Low-Med (lease)

Current Valuation

Licence Value at March 31, 2010

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
ZA Licences	49	20,000	980,000

Valuation Comments

- ZA licence value is pegged at \$20,000. This is based on anecdotal information since there were no known transactions during the valuation period.
- The green urchin market/fishery situation mirrors that for red sea urchins.

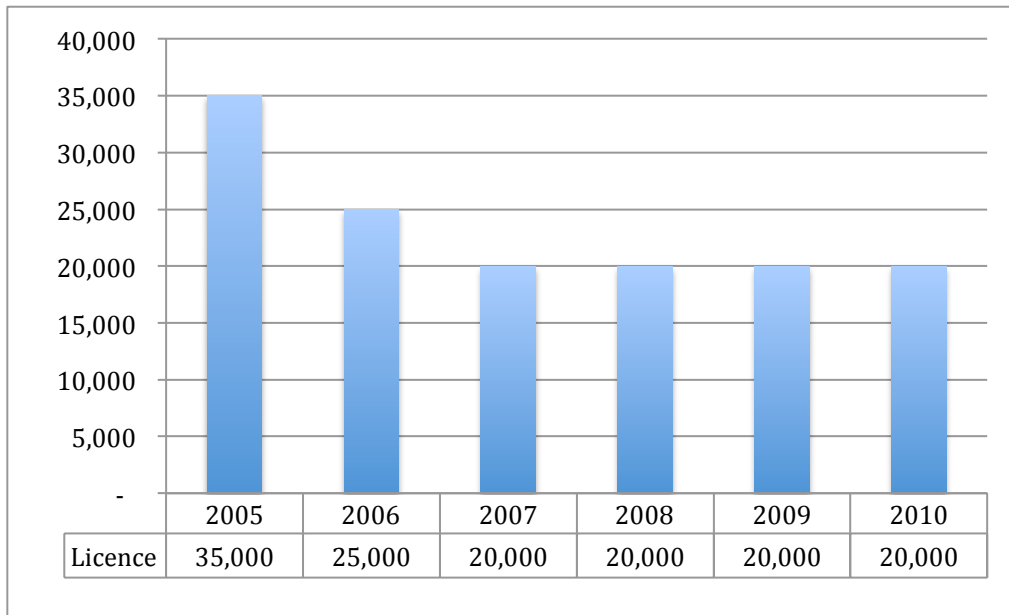
Vessel Value

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.

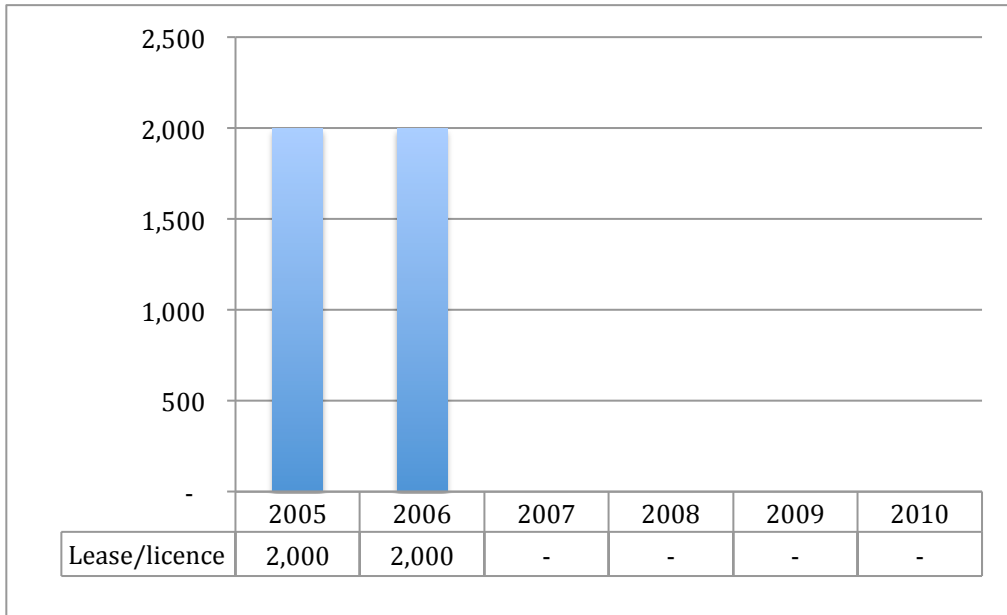
Green Sea Urchin	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	6	65,625	393,750
Modern Style	8	187,500	1,500,000
<i>Total</i>	14	135,268	1,893,750

Licensing Trends

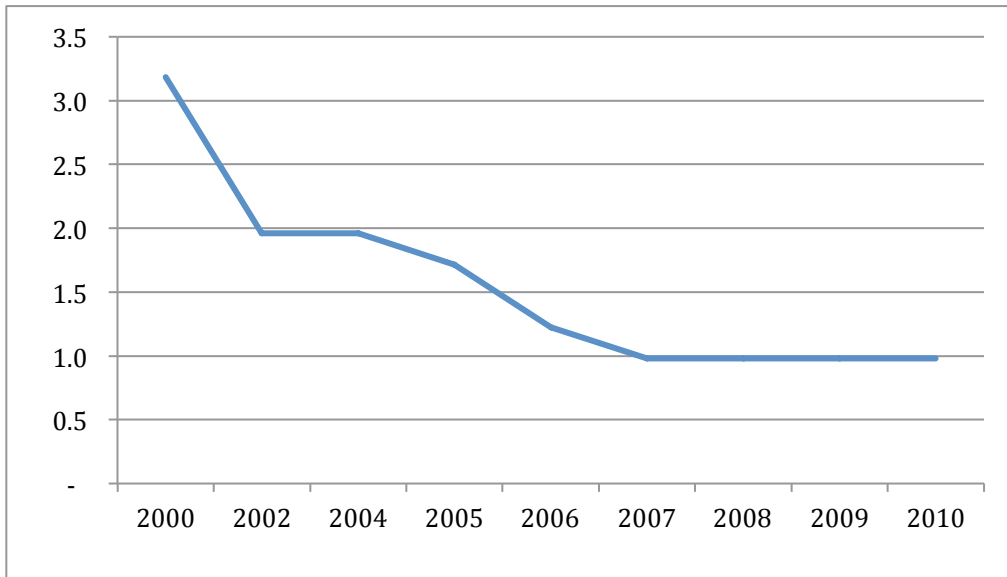
Recent ZA Licence Valuations (\$)



Recent ZA Licence Lease Rates (\$)



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

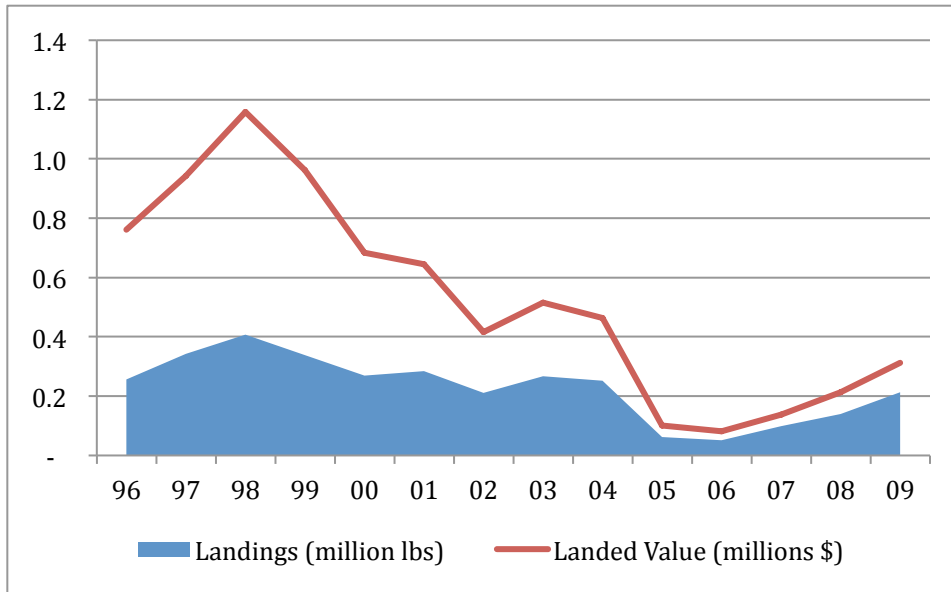


Licence Counts by Category

No chart shown: all 49 licences are category ZA.

Green Sea Urchin Landings & Landed Value Trends

Source: DFO Catch Stats



Outlook

- Only a fraction of the TAC has been harvested in recent seasons. The balance is left in the water because fishing/processing operations are un-economic.
- A glut of product imported by Japan from the Russian “IUU” fishery (illegal, un-regulated, un-reported) remains the largest challenge to the BC industry.
- It is uncertain how/when/if the current market flux will be resolved.
- Urchin stocks are currently healthy and the fishery is considered well-managed; stakeholders express frustration that, despite demonstrating a high level of resource stewardship, their industry is being undermined by external (illegal) forces.
- Industry remains concerned about the impact of sea otters on urchin stocks in areas where otter recovery has been successful.
- There are no overall concerns about green urchin stock levels.

Rockfish Hook & Line

General Description

<i>Licence Designation</i>	ZN
<i>Nature of Licence</i>	Party based – individual, corporation, or band may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	230 (165 Outside, 65 Inside)
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	32 (FZN designation – 26 Outside, 6 Inside)
<i>Licensing/Management Framework</i>	The pilot integration program has been made permanent, effective 2010. ZN licences are allocated Individual Vessel Quota (IVQ). IVQ can be temporarily transferred within the ZN fleet, and to other groundfish sectors. Permanent transferability arrangements are under discussion. Each licence receives an equal share of ZN rockfish allocation.
<i>Additional Information</i>	The inside fishery is severely constrained due to inshore rockfish conservation measures. 100% electronic monitoring is in place.

Valuation Parameters

Valuations performed:	ZN Inside licence ZN Outside licence Annual lease rate for Inside and Outside Vessels
Amount of trading activity underlying valuation:	Few inside licence transactions A moderate number of outside licence transactions A moderate number of leases for both categories
Confidence in valuation:	Moderate (transactions) Moderate (lease)

Current Valuation

Licence Value at March 31, 2010

Category	# Licences	Value/Licence (\$)	Total Value (\$)
ZN Inside	65	35,000	2,275,000
ZN Outside	165	119,700	19,750,500
ZN Total	230	95,763	22,025,500

Valuation Comments

- ZN inside licence value pegged at \$1,000 per foot. Average licence value \$35,000 based on a 35' average vessel length. Values ranged from \$32,000-40,000.
- ZN outside licence value pegged at \$2,850 per foot. Average licence value \$119,700 based on a 42' average vessel length. Values range from \$110,000-125,000.
- ZN outside licences are largely viewed as a source of rockfish bycatch in the integrated groundfish fishery.
- Separate from licence transactions, there are individual species leases within this category as the ZN fishery is managed on an Individual Vessel Quota system under the groundfish integration program. There are no permanent transfers of quota allowed (yet) under the program.

Vessel Value

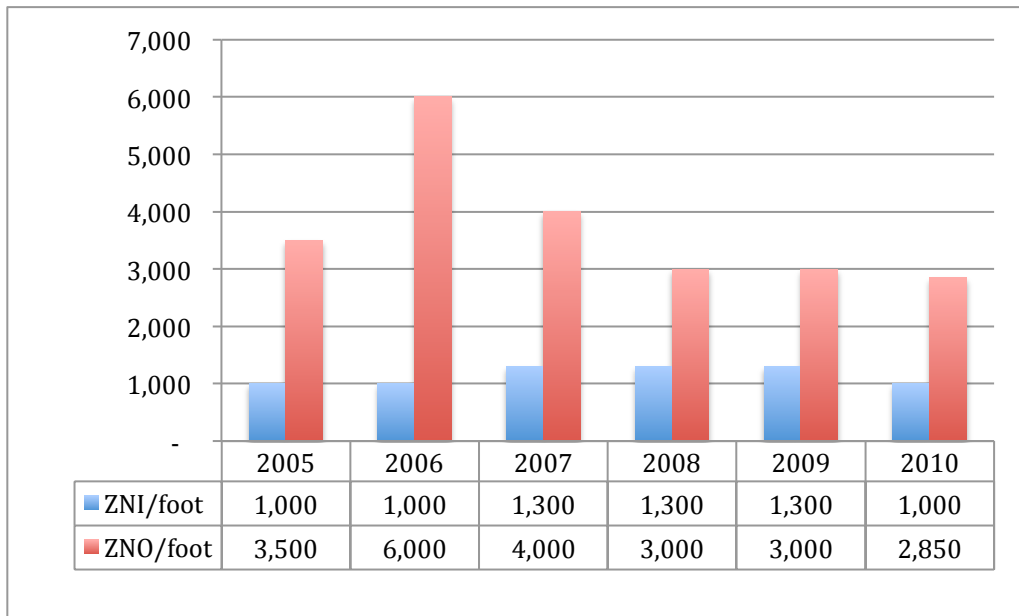
Vessel counts exclude F licences. Fleet composition is arrived at by using past data as a baseline. By nature, fleet vessel valuation is very imprecise and results should be used for general purposes only.

ZN Inside	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	11	40,769	448,462
Modern Style	6	117,857	707,143
<i>Total</i>	17	67,977	1,155,604

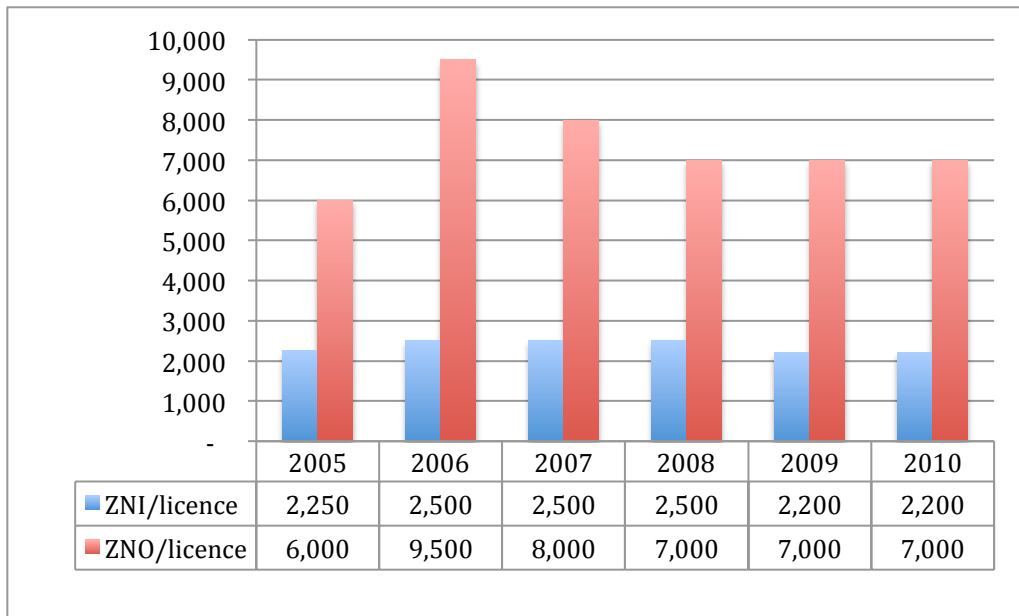
ZN Outside	# Vessels	Avg Vessel Value	Aggregate Value
Classic Style	117	67,308	7,875,000
Modern Style	63	196,429	12,375,000
<i>Total</i>	180	112,500	20,250,000

Licensing Trends

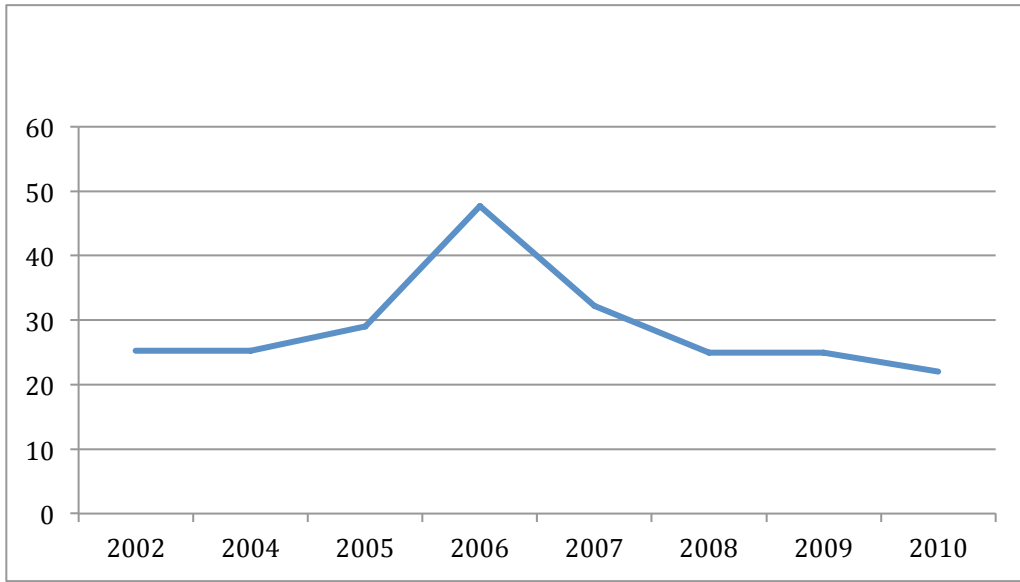
Recent ZN Licence Valuations (\$ per foot)



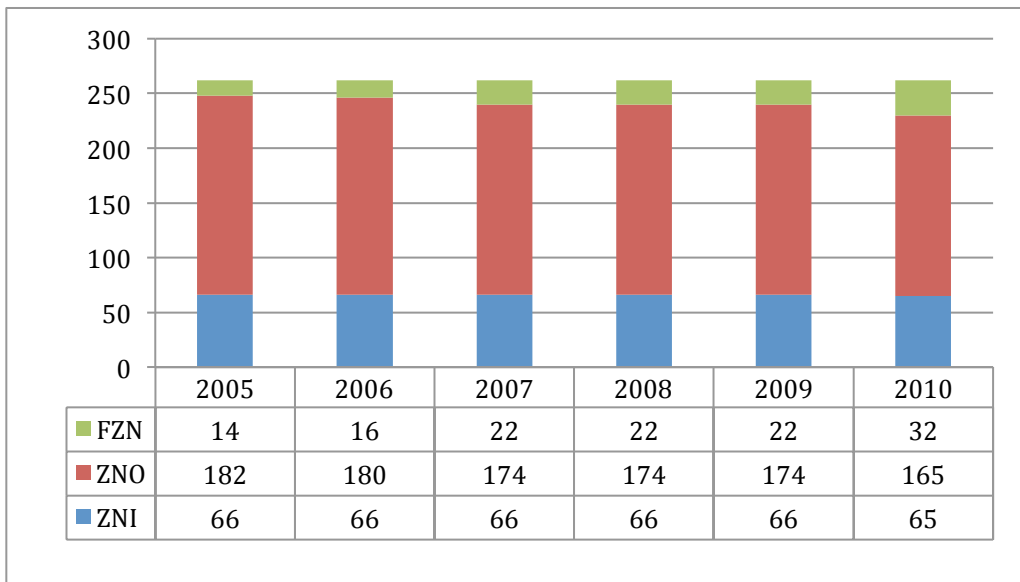
Recent ZN Licence Lease Rates (\$)



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

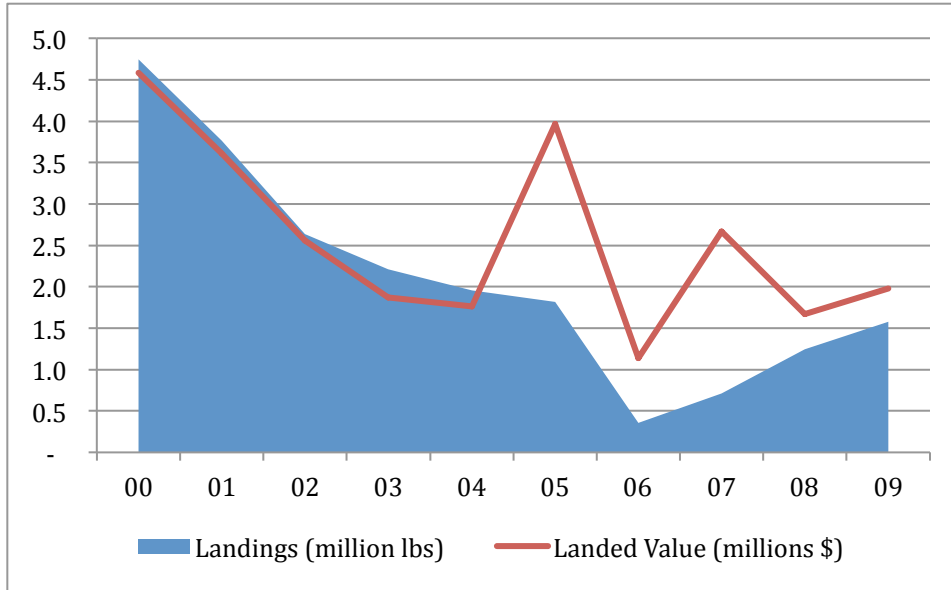


Licence Counts by Category



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 implementation of the integration pilot program 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 steadily grown.

Outlook

- the ZN fisheries are small-scale fisheries, sensitive to fish volumes and operating costs.
- Enhanced catch monitoring requirements, implemented along with the integration measures, have increased costs for the ZN fleet.
- ZN fishermen claim that continued financial support by DFO for the catch monitoring program is critical to continued viability.
- The groundfish integration program has been made permanent, though permanent transferability of IVQ is not currently permitted.

Schedule II Species

General Description

<i>Licence Designation</i>	C
<i>Nature of Licence</i>	Vessel based – vessel owner may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	468
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	11 (FC designation – Party-based)
<i>Licensing/Management Framework</i>	Allows participation in Schedule II fisheries and transporting. Various time, area, gear, TAC, trip limit, and IVQ measures in place.
<i>Additional Information</i>	One C licence (or FC) per vessel. C licence cannot be held on a vessel with any other vessel based licence in most circumstances. List of Schedule II species: Smelt, Spiny Dogfish, Skate, Sole & Flounder, Pacific Cod, Lingcod & Tuna (Canadian & International Waters only). Dogfish and lingcod operating under pilot groundfish integration program.

Valuation Parameters

Valuations performed:	C licence Vessels
Amount of trading activity underlying valuation:	Moderate
Confidence in valuation:	Moderate

Current Valuation

Licence Value at March 31, 2010

Category	# Licences	Value/ Licence Ft (\$)	Total Value (\$)
C Licences	468	250	3,978,000

Valuation Comments

- C licence value pegged at \$250 per foot. Average licence value \$8,500, given an average vessel length of 34'.
- Because there is an ample supply of vessel based licences under which to conduct Schedule II fisheries, C licences have limited value. Also contributing to slight value is the fact that if another category of commercial licences is placed on a C-licensed vessel, the C licence is extinguished.
- Additionally, there are rumors that this licence category could lose the right to hold quotas, which would further erode C licence value.

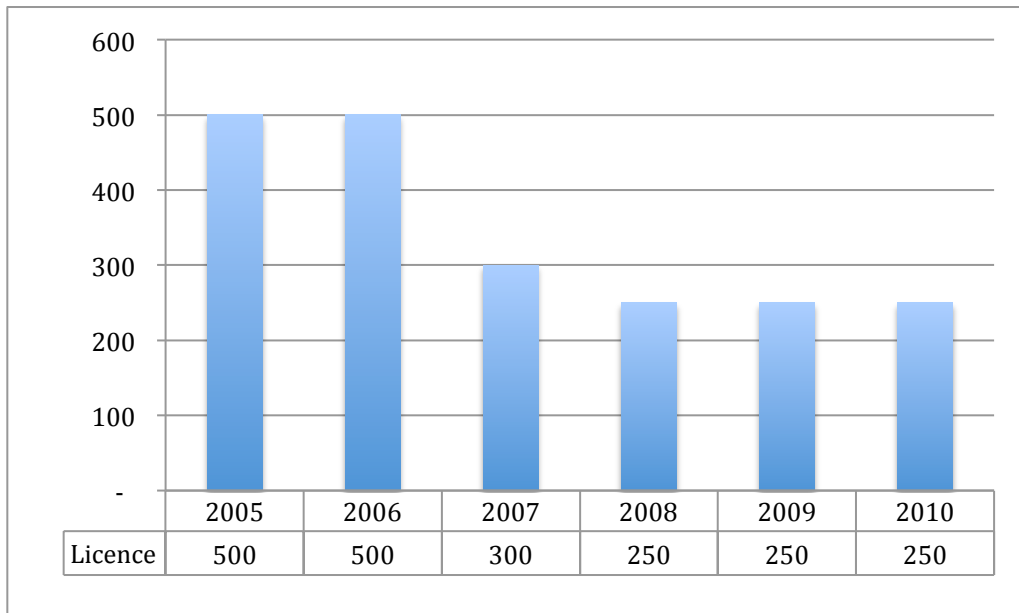
Vessel Value

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.

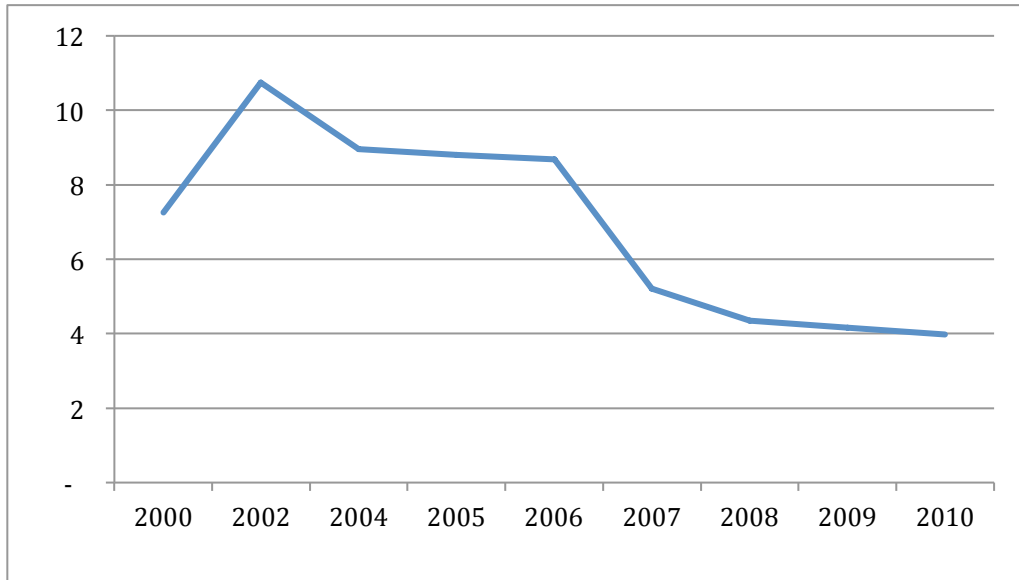
Schedule II	# Vessels	Avg Vessel Value (\$)	Aggregate Value (\$)
Classic Style	257	40,385	10,378,846
Modern Style	139	142,857	19,857,143
<i>Total</i>	396	76,354	30,235,989

Licensing Trends

Recent C Licence Valuations (\$ per foot)

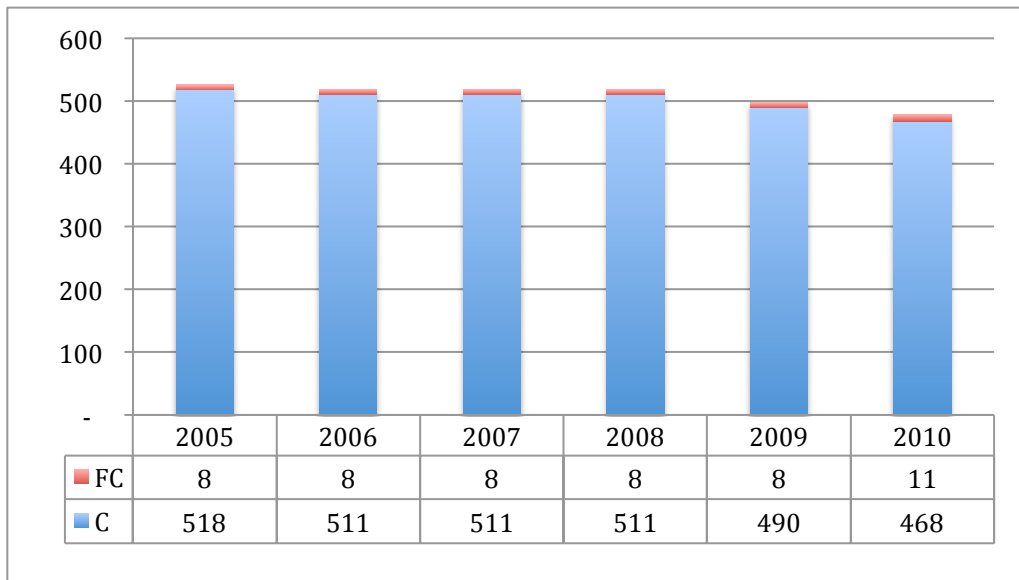


Aggregate Value of C Licences (\$ millions by year)



The value of licences in this category has declined appreciably, driven by both falling 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

- C licences remain a low-value category. There is little reason to expect significant change in the foreseeable future.

Euphausiid

General Description

<i>Licence Designation</i>	ZF
<i>Nature of Licence</i>	Party based – individual, corporation, or band may make annual application for issuance of licence
<i>Number of Commercial Licences (valued in this study)</i>	18
<i>No. of Commercial Communal Lic's (not valued in this study)</i>	1 (FZF designation)
<i>Licensing/Management Framework</i>	Competitive plankton (krill) fishery using trawl gear. Vessels vie for share of the annual 500 ton TAC.
<i>Additional Information</i>	Fishery primarily in mainland inlets of Georgia Strait

Valuation Parameters

Valuations performed:	ZF licence Vessels
Amount of trading activity underlying valuation:	None
Confidence in valuation:	Low

Current Valuation

Licence Value at March 31, 2010

Category	# Licences	Value/ Licence (\$)	Total Value (\$)
ZF Licences	18	50,000	900,000

Valuation Comments

- Average licence value pegged at \$50,000, based on anecdotal reports.
- There has been no transaction activity in this category for several years.

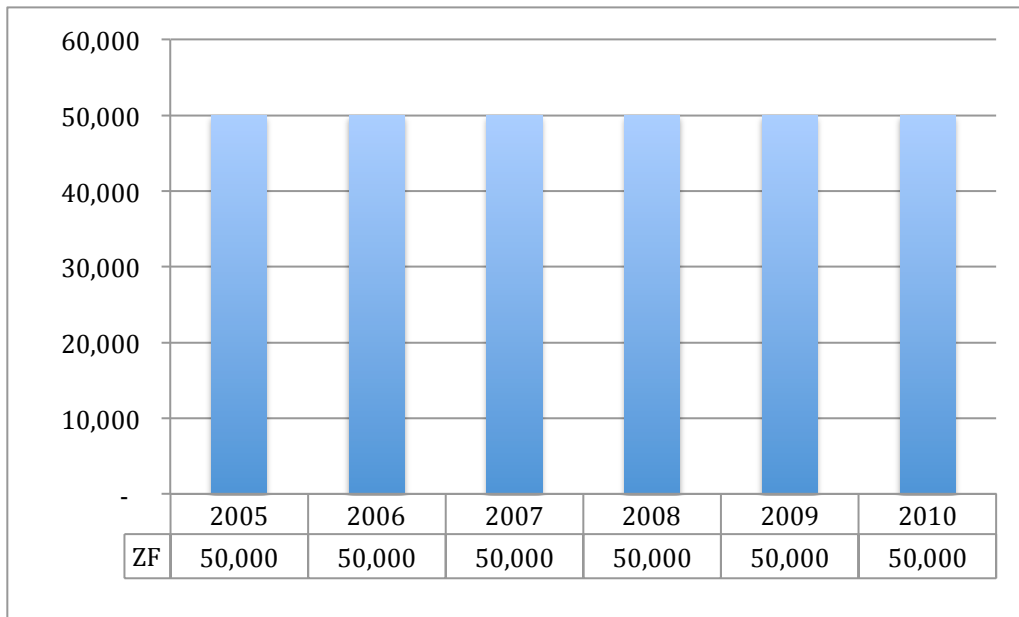
Vessel Value

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.

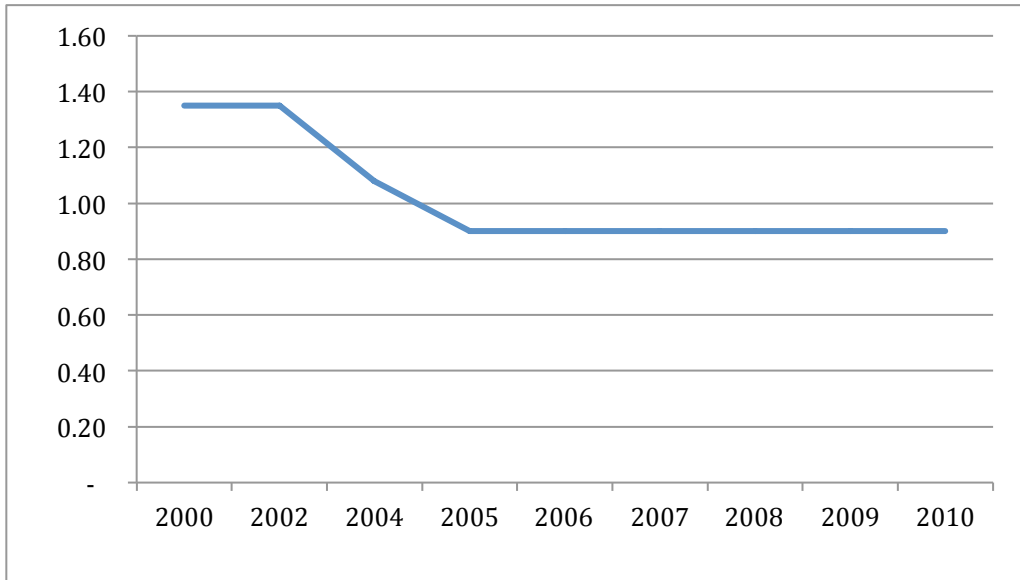
Euphausiid	# Vessels	Avg Vessel Value	Aggregate Value
Classic Style	8	143,750	1,150,000
Modern Style	11	566,667	6,233,333
<i>Total</i>	19	388,596	7,383,333

Licensing Trends

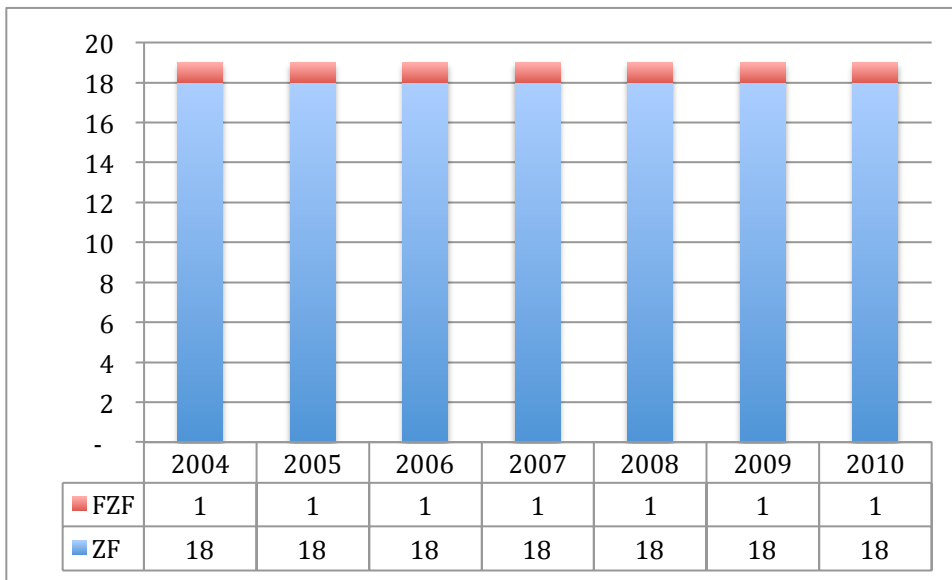
Recent ZF Licence Valuations (\$)



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

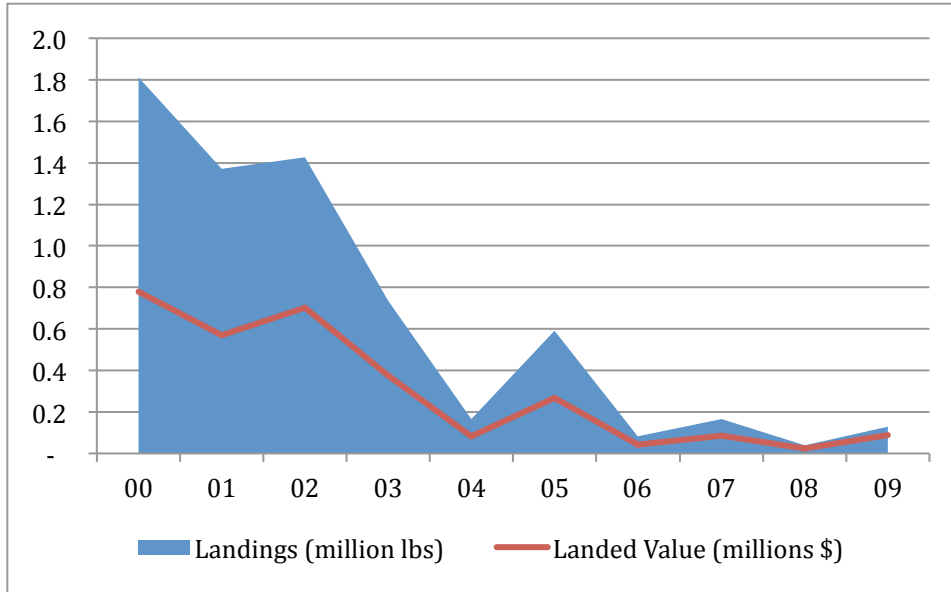


Licence Counts by Category



Euphausiid Landings & Landed Value Trends

Source: DFO Catch Stats



Outlook

- The market situation is currently challenging in this fishery.
- Economic operations are difficult to mount, so TACs are not fully utilized.
- A larger scale fishery could allow for economies of scale, but the optics of ramping-up catches in this plankton fishery are problematic.

Summary

Aggregate Value of Licences and Quota at March 31, 2010

Fishery	Licence Designation	# Licences	Aggregate Licence Value (\$ millions)	Average Licence Value (\$)	Aggregate Quota Value (\$millions)	Total Licence & Quota Value
Salmon Seine	AS	228	44.9	196,842		44.9
Salmon Gillnet	AG	970	46.2	47,588		46.2
Salmon Troll	AT	486	33.7	69,290		33.7
Roe Herring Seine	HS	248	42.1	169,758		42.1
Roe Herring Gillnet	HG	1207	67.8	56,160		67.8
Herring Spawn on Kelp	J	36	9.9	275,000		9.9
Halibut	L	360	19.9	55,380	222.1	242.0
Sablefish	K	44	8.8	200,000	105.5	114.3
Geoduck/Horseclam	G	55	178.8	3,250,000		178.8
Shrimp	S	232	4.3	18,450		4.3
Prawn	W	216	118.3	547,500		118.3
Groundfish Trawl	T	139	5.3	37,800	213.3	218.5
Crab	R	200	102.4	512,000		102.4
Sea Cucumber	ZD	85	25.5	300,000		25.5
Red Sea Urchin	ZC	86	3.0	35,000		3.0
Green Sea Urchin	ZA	49	1.0	20,000		1.0
Rockfish - Inside	ZNI	65	2.3	35,000		2.3
Rockfish - Outside	ZNO	165	19.8	119,700		19.8
Schedule II	C	468	4.0	8,500		4.0
Euphausiid	ZF	18	0.9	50,000		0.9
Totals			738.6		540.9	1,279.46