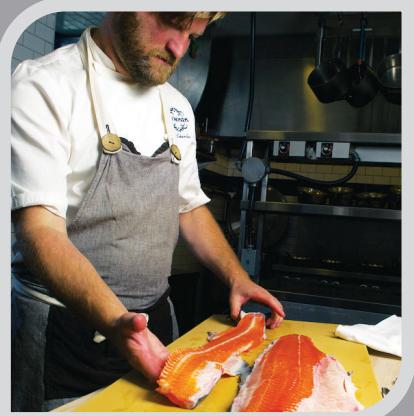


# Seafood Industry Year in Review 2014



  
**Newfoundland  
Labrador**  
Fisheries and Aquaculture





## Message from the Minister



I am pleased to present Seafood Industry Year in Review 2014. This publication provides information regarding Newfoundland and Labrador's seafood industry. This reference document contains statistics for the province's wild and farmed fisheries, as well as details about key government initiatives undertaken in the past year to support the success of the industry.

The provincial seafood sector makes a substantial contribution to Newfoundland and Labrador's economy. Total production in the seafood industry for 2014 was valued at approximately \$954 million, and the economic activity generated by the industry provided employment for nearly 18,000 people.

This past year, the Provincial Government worked with industry and research institutions to find new ways to enhance the viability of the cod sector. We look forward to continued collaboration with industry stakeholders on harvesting, processing, and marketing efforts for groundfish species, particularly in light of the rebounding resources.

The provincial aquaculture industry continued to build its reputation as a strong competitor on the world stage in 2014. A number of operators achieved Best Aquaculture Practices or were certified to the Canadian Organic Aquaculture Standard. This is a clear indication of the industry's ability to respond to consumer demand for seafood that is farmed in a responsible and sustainable manner. We look forward to strengthening the industry by implementing the recently launched Newfoundland and Labrador Sustainable Aquaculture Strategy. This strategy will guide our efforts to support the industry, specifically by enhancing sustainable management practices, growing capacity within the industry, and promoting research and development.

This past year saw great success achieved through collaboration between industry, government, community leaders, and research institutions. Through strategic planning and investment, the Provincial Government is helping the industry build on that success for the benefit of present and future generations.

**Vaughn Granter, MHA**  
District of Humber West  
Minister of Fisheries and Aquaculture



# CONTENTS

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Seafood Industry Performance 2014	1
Capture Fisheries	3
Aquaculture	8
<i>Special Feature: Aquaculture Certification</i>	10
Production Overview	11
Market Overview	13
<i>Special Feature: Advancing Energy Efficiency in the Processing Sector</i>	16
Resource Status	17
Departmental Initiatives	20
Outlook for 2015	23
<i>Map of Licensed Fish Processing Plants</i>	24
<i>Map of Licensed Aquaculture Sites</i>	25
<i>Map of Fisheries Management Divisions</i>	26
<i>Map of Shrimp Fishing Areas</i>	27
<i>Contact Information</i>	28
<i>Photo References</i>	28

**Publication Prepared by:**

Planning Services  
Department of Fisheries and Aquaculture  
February 2015

## ACRONYMS AND ABBREVIATIONS

The following acronyms and abbreviations are used throughout this document and are provided here for reference.

BAP – Best Aquaculture Practices

CFER – Centre for Fisheries Ecosystems Research

DFA – Department of Fisheries and Aquaculture

DFO – Fisheries and Oceans Canada

FFAW – Fish, Food and Allied Workers

GAA – Global Aquaculture Alliance

MSC – Marine Stewardship Council

NAFO – Northwest Atlantic Fisheries Organization

NAIA – Newfoundland Aquaculture Industry Association

SFA – Shrimp Fishing Area

TAC – Total Allowable Catch

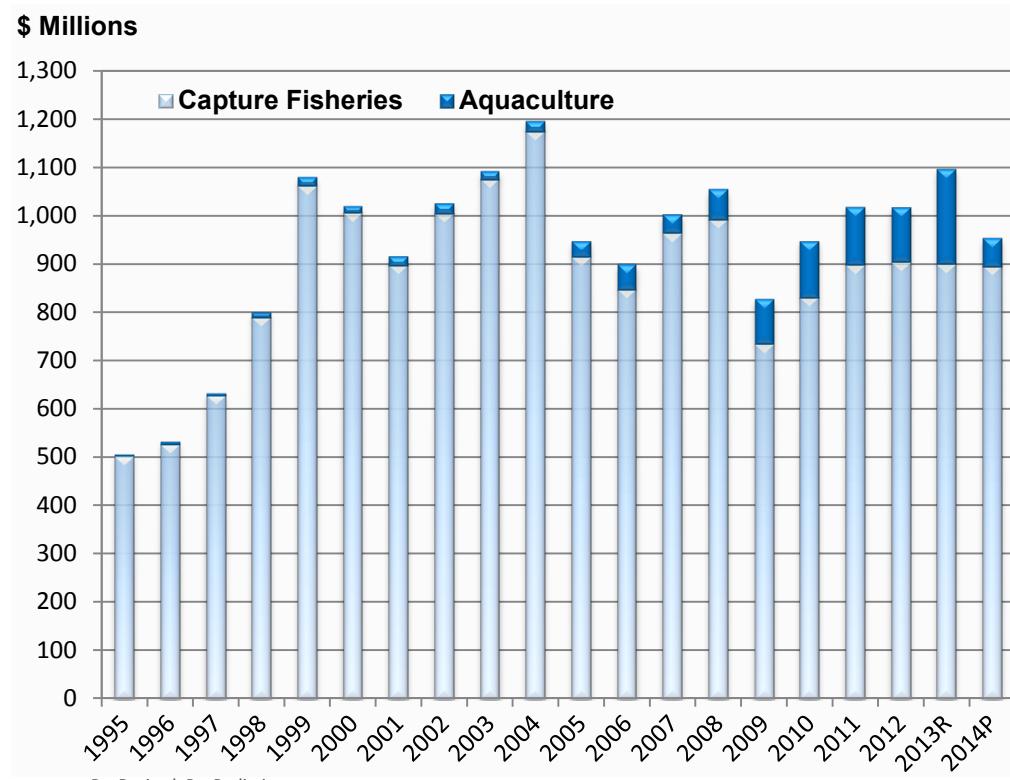


# SEAFOOD INDUSTRY 2014 PERFORMANCE

The fishing and aquaculture industries continued to be important economic drivers throughout Newfoundland and Labrador in 2014. The value of total production in the industry remained at a high level, totalling \$954 million, despite a decline of 13.1 per cent in comparison to 2013. Higher market prices for key species helped offset the reduction in capture fishery landings and a decrease in aquaculture production in 2014.

## Production Market Value

Newfoundland and Labrador



R = Revised; P = Preliminary

Source: Fisheries and Oceans Canada (DFO); Department of Fisheries and Aquaculture (DFA); Statistics Canada

## EMPLOYMENT

The seafood industry continues to employ a significant number of people in over 400 communities across the province. Employment in the seafood industry totalled 17,781 in 2014, down from 18,637 in the previous year. The decline was the result of lower employment levels in all sectors. The number of fish harvesters was down 2.4 per cent, to 9,465 workers. Employment in the processing sector decreased 6.5 per cent, to 7,881 workers in 2014. These workers process seafood from the wild fishery and from aquaculture operations. Aquaculture employment recorded a decline of 14.5 per cent, to 435 workers during the same time.

### Seafood Industry Employment

Newfoundland and Labrador

	2013R	2014P	% CHANGE
Aquaculture	509	435	-14.5%
Harvesting (Capture Fisheries)	9,701	9,465	-2.4%
Processing (Aquaculture and Capture Fisheries)	8,427	7,881	-6.5%
<b>Total</b>	<b>18,637</b>	<b>17,781</b>	<b>-4.6%</b>

R = Revised; P = Preliminary

Source: DFA; Professional Fish Harvesters Certification Board



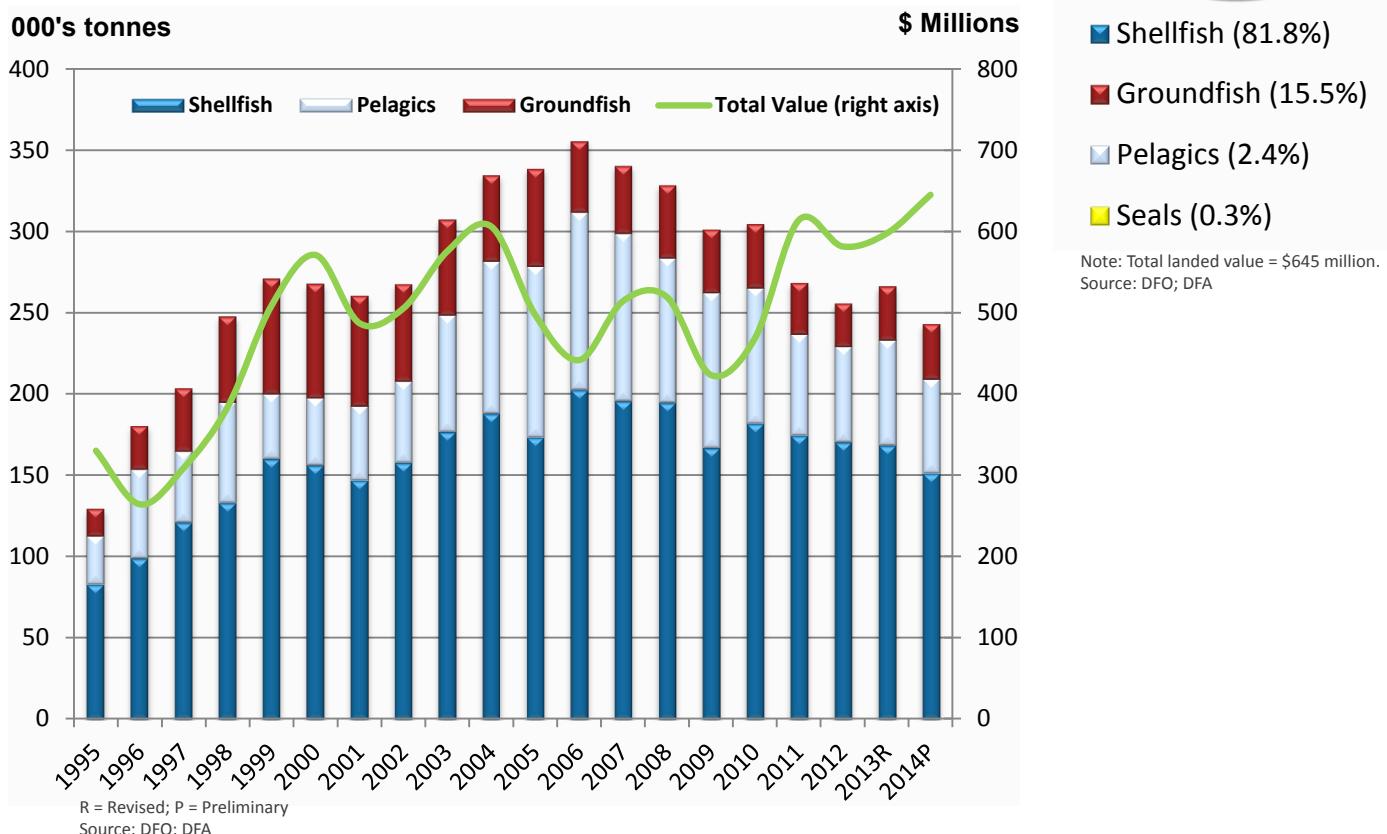


# CAPTURE FISHERIES

In 2014, the value of commercial fish landings increased compared to the previous year. This rise resulted from higher raw material prices for key species, particularly snow crab, shrimp, and turbot. Landed value totalled approximately \$645 million, up 8.0 per cent compared to \$597 million in 2013. The corresponding landings totalled 243,555 tonnes, down 8.7 per cent from 266,679 tonnes in 2013. This decrease was mainly the result of lower shrimp landings. The table on page 7 shows the volume and value of fish landings, by select species, in Newfoundland and Labrador for 2013 and 2014.

## Fish Landings by Species Group

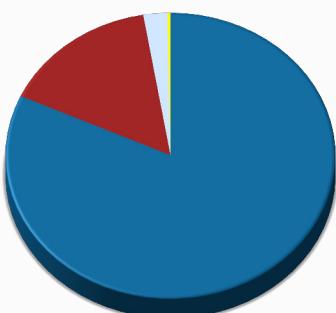
Newfoundland and Labrador



## SHELLFISH

The shellfish sector continued to be the major contributor to the capture fisheries in 2014, comprising 62.1 per cent of total landings and generating 81.8 per cent of total landed value. Shellfish landings declined to 151,203 tonnes in 2014, mainly due to quota cuts in the shrimp fishery. This represents a 10.1 per cent decrease compared to 168,270 tonnes caught in 2013. The corresponding landed value increased 9.0 per cent to \$528 million, up from \$484 million in 2013.

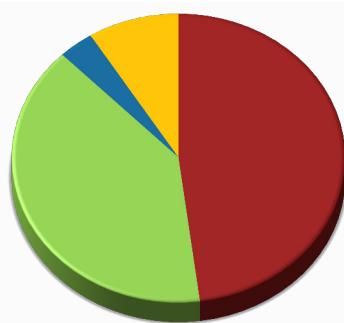
Capture Fisheries Landed Value by Species Group, 2014



- Shellfish (81.8%)
- Groundfish (15.5%)
- Pelagics (2.4%)
- Seals (0.3%)

Note: Total landed value = \$645 million.  
Source: DFO; DFA

## Shellfish Landed Value by Species, 2014



- Snow Crab (47.9%)
- Shrimp (39.7%)
- Lobster (3.5%)
- Other (8.9%)

Note: Shellfish landed value = \$528 million.  
Source: DFO; DFA

### Shrimp

Higher landed value for shrimp more than offset a decline in the shrimp resource in 2014. Newfoundland and Labrador shrimp landings decreased 14.9 per cent to 71,387 tonnes. This decline is largely due to an 18,500 tonne reduction in the Total Allowable Catch (TAC) for northern shrimp. The overall landed value of shrimp increased 8.1 per cent to \$210 million, resulting from a rise in the raw material price. The minimum landed price paid to harvesters for inshore shrimp in the 2014 spring fishery was \$0.76 per pound, up from \$0.65 per pound in 2013. This minimum price increased throughout 2014, to \$0.87 per pound in the summer fishery and to \$1.08 per pound in the fall fishery.

### Snow Crab

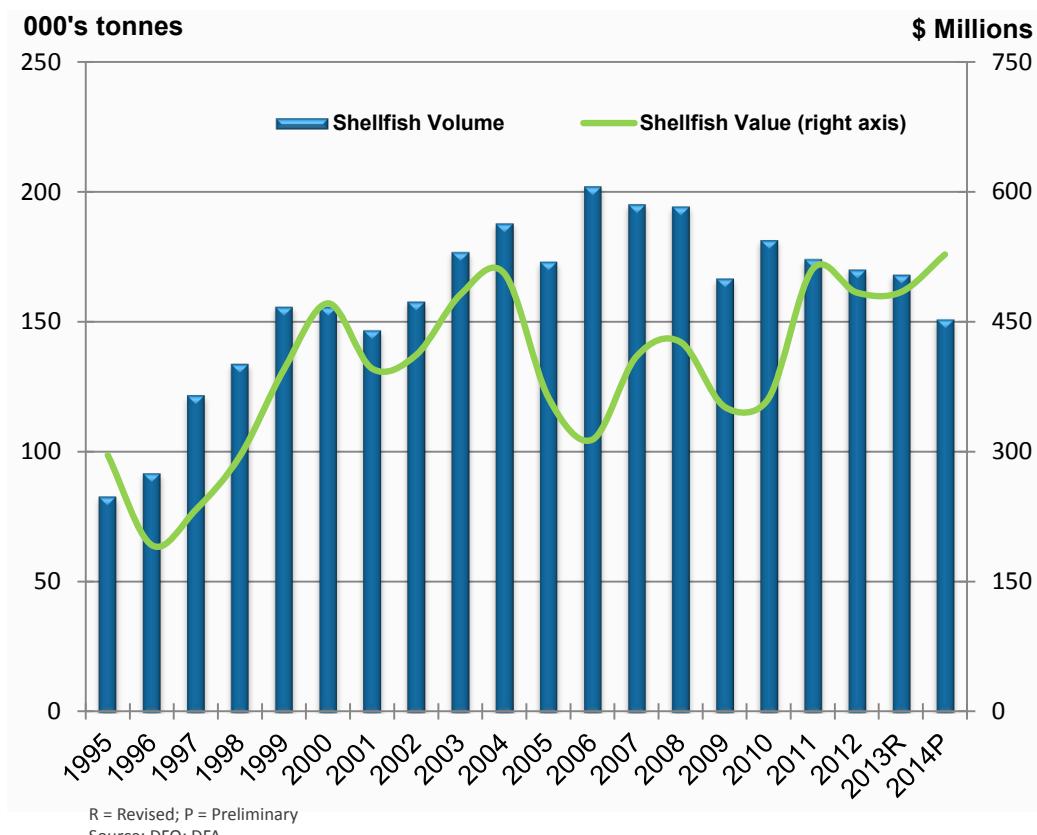
Provincial snow crab landings declined marginally compared to 2013, recording a 1.8 per cent decrease to 49,905 tonnes in 2014. The associated landed value, however, increased 14.9 per cent to \$253 million. This is primarily due to a 16.8 per cent rise in the average raw material price paid per pound for snow crab; \$2.30 in 2014 compared to \$1.97 in 2013.

### Lobster

Lobster landings decreased 4.4 per cent to 2,105 tonnes in 2014. However, the corresponding landed value increased 3.9 per cent to \$18 million. This was the result of a higher raw material price that averaged \$3.92 per pound in 2014, up from \$3.61 per pound in 2013.

## Shellfish Landings

Newfoundland and Labrador



## Other Shelffish

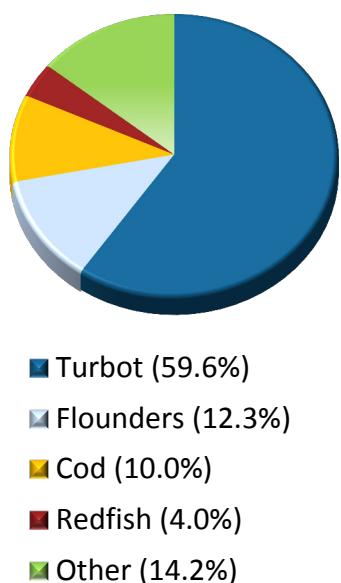
Whelk landings and landed value dropped in 2014, down 54.7 per cent to 2,147 tonnes and 54.2 per cent to \$3 million respectively. These reductions were due to lower catches in Northwest Atlantic Fisheries Organization (NAFO) Division 3Ps. Landings and landed value of scallops remained on par in 2014.

## GROUNDFISH

Groundfish accounted for 14.1 per cent of total capture fisheries landings in 2014 and 15.5 per cent of total landed value. Landings increased 2.5 per cent over 2013, totalling 34,372 tonnes. An increase in cod landings offset a decline in flounder catches. The corresponding landed value of groundfish rose 8.2 per cent to \$100 million. Groundfish landed value was higher in 2014, resulting from higher raw material prices for some species, turbot in particular.

Cod landings increased 22.9 per cent to 10,112 tonnes in 2014, resulting from higher catches in NAFO Division 3Ps due to increased effort. Flounder landings decreased 16.6 per cent from 2013, to 8,260 tonnes last year. This decline was primarily the result of lower landings in the offshore flounder fishery. Turbot landings were up 9.0 per cent to 11,751 tonnes in 2014.

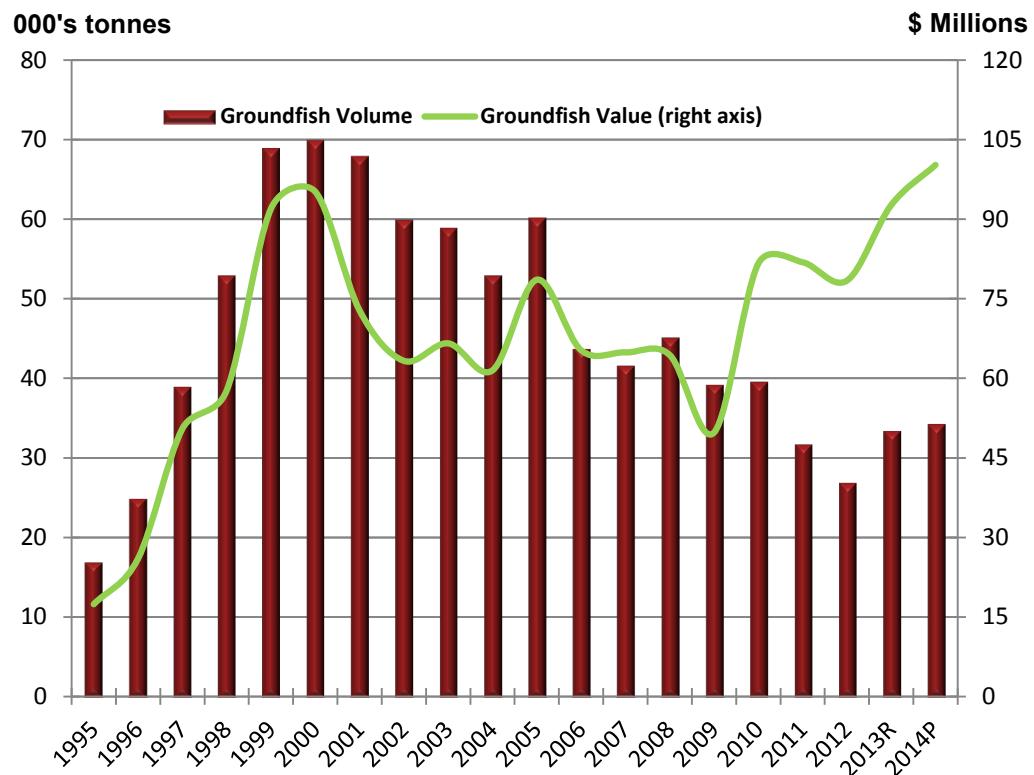
Groundfish Landed Value by Species, 2014



Note:  
- Groundfish landed value = \$100 million.  
- Species components may not sum due to independent rounding.  
Source: DFO; DFA

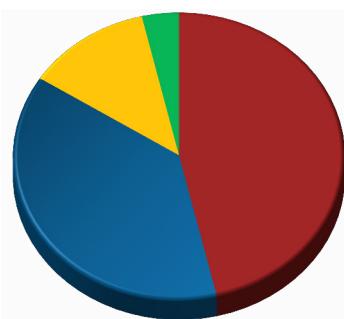
## Groundfish Landings

Newfoundland and Labrador



R = Revised; P = Preliminary  
Source: DFO; DFA

## Pelagics Landed Value by Species, 2014



- Herring (46.3%)
- Capelin (37.7%)
- Mackerel (12.3%)
- Other (3.6%)

### Note:

- Pelagics landed value = \$15 million.
- Species components may not sum due to independent rounding.

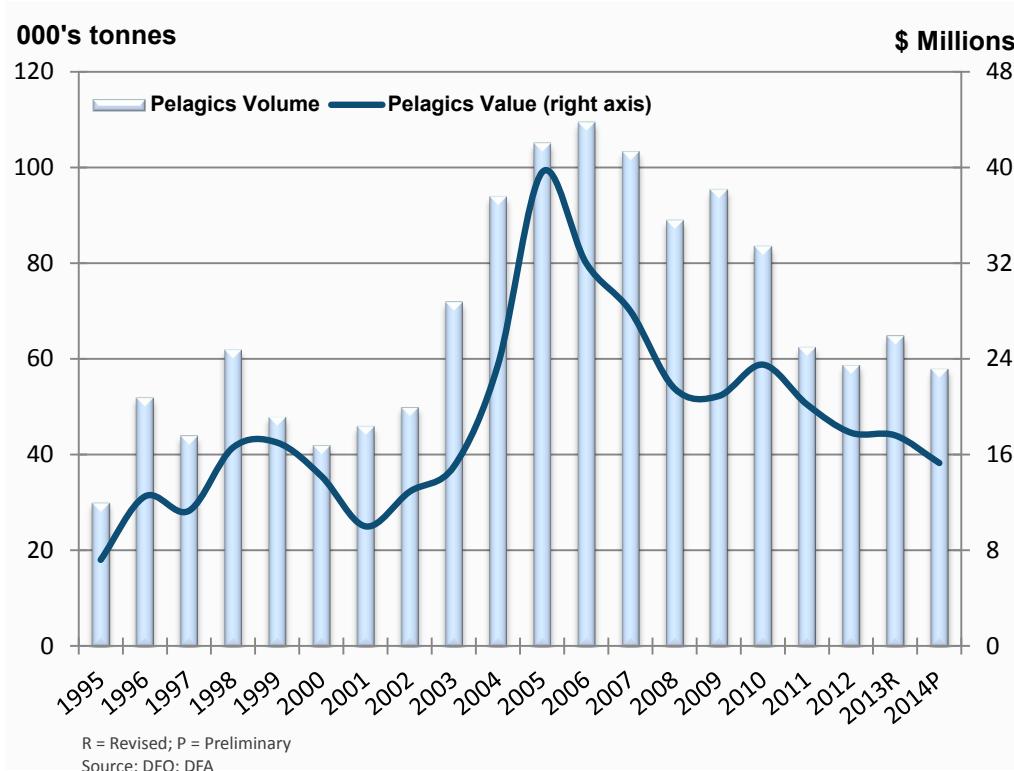
Source: DFO; DFA

## PELAGICS

Pelagics comprised 23.8 per cent of total capture fisheries landings in 2014 and 2.4 per cent of total landed value. Landings of pelagics declined 10.6 per cent, down to 57,980 tonnes in 2014. This was the result of lower herring, mackerel, and capelin landings. The corresponding landed value decreased 13.1 per cent to \$15 million in 2014. Herring landings were down 13.0 per cent to 25,721 tonnes in 2014, due to lower catches in the Gulf of St. Lawrence (NAFO Division 4R). Mackerel landings dropped 33.5 per cent to 3,436 tonnes in 2014, resulting from lower availability of commercial-sized fish. Capelin landings declined 4.3 per cent to 28,731 tonnes.

## Pelagics Landings

Newfoundland and Labrador



## HARP SEALS

In 2014, the seal harvest was challenged by severe ice conditions and weak market prospects. The number of seals harvested in 2014 fell by 37.7 per cent to 59,318 seals, down from 95,221 seals in 2013. The associated landed value declined 35.3 per cent to \$1.9 million. The average landed price per pelt ranged between \$25 and \$30, on par with 2013. Restrictions on the sale of seal products in various markets continue to present a challenge for this industry.

# LANDED VOLUME AND VALUE

## NEWFOUNDLAND AND LABRADOR

SPECIES GROUP	2013 REVISED		2014 PRELIMINARY		2013-14 COMPARISON	
	VOLUME (TONNES)	VALUE (000'S)	VOLUME (TONNES)	VALUE (000'S)	% VOLUME	% VALUE
<b>SHELLFISH</b>						
SHELLFISH	Snow Crab	50,818	\$220,255	49,905	\$253,047	-1.8% 14.9%
	Shrimp	83,878	\$193,824	71,387	\$209,561	-14.9% 8.1%
	Lobster	2,200	\$17,526	2,105	\$18,207	-4.4% 3.9%
	Scallops	1,474	\$3,281	1,453	\$3,268	-1.4% -0.4%
	Whelk	4,744	\$6,646	2,147	\$3,046	-54.7% -54.2%
	Other Shellfish	25,155	\$42,725	24,206	\$40,610	-3.8% -5.0%
	<b>TOTAL SHELLFISH</b>	<b>168,270</b>	<b>\$484,257</b>	<b>151,203</b>	<b>\$527,739</b>	<b>-10.1% 9.0%</b>
<b>GROUNDFISH</b>						
GROUNDFISH	Turbot	10,777	\$50,257	11,751	\$59,758	9.0% 18.9%
	Flounder	9,902	\$14,697	8,260	\$12,320	-16.6% -16.2%
	Cod	8,225	\$8,215	10,112	\$9,996	22.9% 21.7%
	Redfish	2,993	\$5,907	2,070	\$3,976	-30.8% -32.7%
	Hake	281	\$233	404	\$335	44.0% 44.1%
	Pollock	149	\$93	336	\$207	126.0% 123.8%
	Skate	312	\$84	199	\$59	-36.5% -30.2%
	Monkfish	53	\$75	4	\$4	-93.2% -94.8%
	Other Groundfish	845	\$13,120	1,237	\$13,591	46.5% 3.6%
<b>TOTAL GROUNDFISH</b>		<b>33,536</b>	<b>\$92,679</b>	<b>34,372</b>	<b>\$100,245</b>	<b>2.5% 8.2%</b>
<b>PELAGICS</b>						
PELAGICS	Herring	29,569	\$8,149	25,721	\$7,088	-13.0% -13.0%
	Capelin	30,019	\$6,021	28,731	\$5,762	-4.3% -4.3%
	Mackerel	5,170	\$2,836	3,436	\$1,886	-33.5% -33.5%
	Other Pelagics	115	\$597	92	\$558	-20.2% -6.5%
	<b>TOTAL PELAGICS</b>	<b>64,873</b>	<b>\$17,604</b>	<b>57,980</b>	<b>\$15,294</b>	<b>-10.6% -13.1%</b>
	Harp Seals (number)	95,221	\$2,897	59,318	\$1,875	-37.7% -35.3%
	<b>TOTAL</b>	<b>266,679</b>	<b>\$597,437</b>	<b>243,555</b>	<b>\$645,154</b>	<b>-8.7% 8.0%</b>

Note:

- Species components may not sum to total due to independent rounding.
- The values of flounder may be understated as they may not be representative of port prices.
- Total volume does not include the number of seals.

Source: DFO; DFA



# AQUACULTURE



The Newfoundland and Labrador aquaculture industry is primarily focused on the production of Atlantic salmon and blue mussels. Total aquaculture production was 9,240 tonnes in 2014, representing a decrease of 65.2 per cent relative to 2013. The decline in production is mainly due to lower Atlantic salmon production. The corresponding production market value totalled \$59 million in 2014, down 69.9 per cent from 2013.

## SALMONIDS

Atlantic salmon and steelhead trout are the two main commercial salmonid species in the province, with a limited amount of Arctic char produced. There were 87 commercial salmonid sites licensed in 2014, covering a combined area of 2,402 hectares. The map on page 25 shows licensed aquaculture sites by sector.

Salmonid production volume and value fell in 2014. The production volume declined to 5,980 tonnes, down 73.1 per cent relative to 2013. The market value was \$48 million, down 73.8 per cent in comparison to the previous year. There were two primary factors that contributed to the lower salmonid production volume. The detection of the virus that causes Infectious Salmon Anaemia that occurred in 2012 and 2013 and the subsequent measures undertaken (fish were removed) impacted fish scheduled for harvest in 2014. In addition, a superchill event experienced during the winter of 2014 caused further loss of fish scheduled for harvest in 2014. Superchill refers to water temperature that drops below zero degrees Celsius. This may result in increased fish mortality. Combined, these two events accounted for lower salmonid production over the past year. Production volume is anticipated to rebound in 2015.



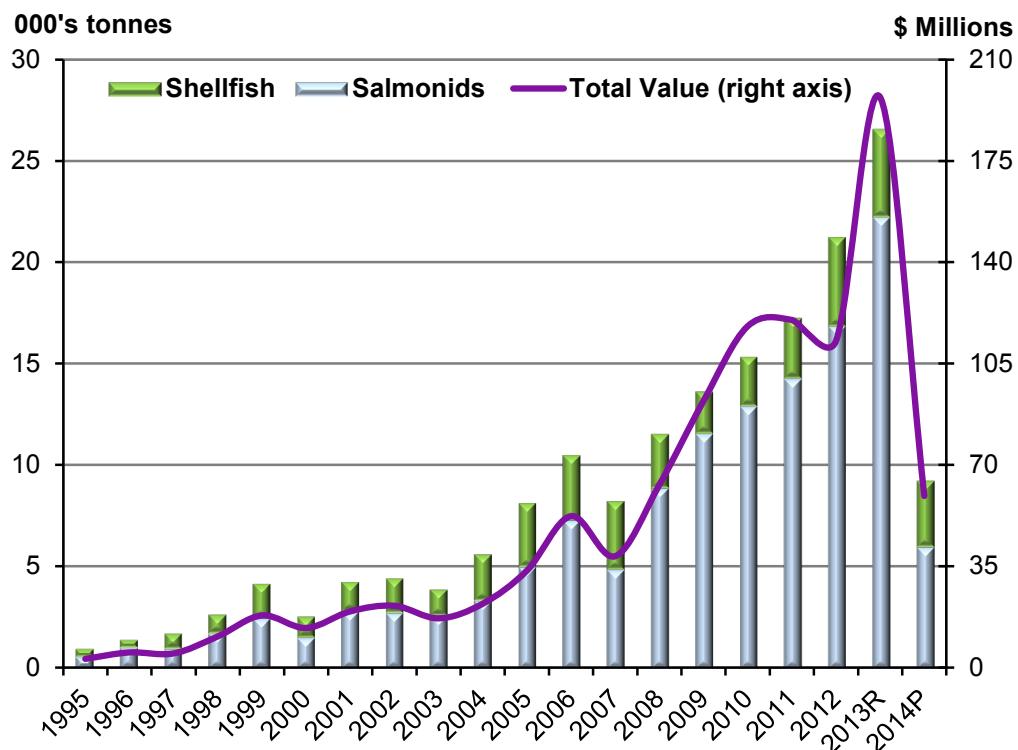
## SHELLFISH

In Newfoundland and Labrador, the blue mussel is the major commercial shellfish aquaculture species. In 2014, there were 51 commercial shellfish sites licensed that covered a combined area of 4,090 hectares (see map on page 25).

Shellfish production declined in 2014. Production volume for mussels was 3,260 tonnes, representing a 25.1 per cent decrease from 2013. Volume is anticipated to return to 2013 levels over the next two years. Total market production value for mussels was down 23.1 per cent in 2014, to \$12 million.

### Aquaculture Production

Newfoundland and Labrador



R = Revised; P = Preliminary

Note: Salmonid production is reported as head-on gutted weight.

Source: DFO; DFA

## SPECIAL FEATURE



### AQUACULTURE CERTIFICATION

In the global seafood marketplace, sustainability is important to buyers and consumers. A growing number of retail and food service operators are adopting procurement policies to ensure the seafood products they purchase are grown, harvested, and processed in a manner that is sustainable and environmentally responsible. Certified products meet stringent standards set by reputable and unbiased third parties.

Over the past few years, the province's aquaculture industry, through the Newfoundland Aquaculture Industry Association (NAIA), was keen to promote its sustainability and environmental integrity. NAIA worked with industry towards third-party certifications. This provides an opportunity for companies to meet the sustainability demands required by their customers and create new market opportunities.

Currently, eight mussel producers and four processors meet the Canadian Organic Aquaculture Standard as well as the Best Aquaculture Practices (BAP) certification standards. These producers represent about 90 per cent of the province's mussel production. The organic aquaculture standards prohibit the use of antibiotics, herbicides, and genetically modified organisms, and set measurable requirements for practices that minimize the impact of waste. More information on these standards is available on the Canadian Aquaculture Industry Alliance website at [www.aquaculture.ca](http://www.aquaculture.ca).

Atlantic salmon and steelhead trout producers in the province have achieved, or are working towards, certification under the BAP standards. These standards were developed in 1997 by Global Aquaculture Alliance (GAA), the leading standards-setting organization for aquaculture seafood. The GAA is an international, non-profit trade association whose BAP program provides comprehensive, metrics-based certification for aquaculture facilities, including farms, hatcheries, feed mills, and processing plants. For more information on GAA, visit [www.gaalliance.org](http://www.gaalliance.org). The BAP standards are built to specifically address a full range of issues, including environmental and social responsibility, animal health and welfare, food safety, and traceability for each phase of the production cycle. The standards promote the responsible use of resources including land, water, nutrients, and other resources. More information on BAP can be found at [www.bestaquaculturepractices.org](http://www.bestaquaculturepractices.org).



## PRODUCTION OVERVIEW

Production Volume  
by Sector, 2014

There were 86 active processing operations in the province in 2014 that reported production. This is on par with the previous year. Of these facilities, 68 were primary, 2 were secondary, 6 were standalone aquaculture operations, and 10 were in-province retail. Total seafood production value remained high in 2014, nearly offsetting the decline in the volume of raw material available for processing. Production volume decreased 18.3 per cent to 120,322 tonnes in 2014, down from 147,347 tonnes in 2013. The production volume is calculated based on the end weight of the fish products produced for market. This decline is largely the result of lower salmonid, pelagics, and shrimp production. See the pie chart on the right for the share of production by sector.

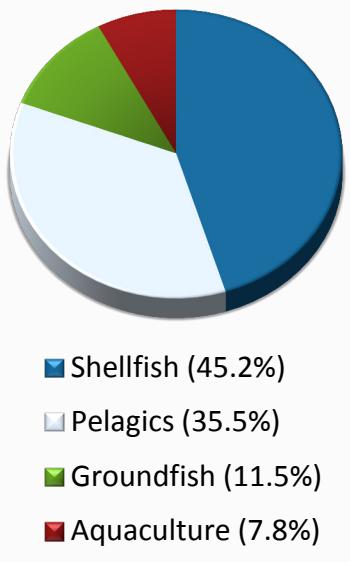
### SHELLFISH

Shellfish represented 45.2 per cent of total production in 2014, compared to 40.5 per cent in 2013. In 2014, shellfish production decreased 8.8 per cent to 54,379 tonnes, down from 59,647 tonnes in 2013. The decrease in shellfish was mainly the result of lower shrimp and whelk production. Cooked and peeled coldwater shrimp production totalled 13,838 tonnes in 2014, down 17.7 per cent from 16,816 tonnes in 2013. Snow crab sections decreased 6.0 per cent to 28,485 tonnes in 2014, down from 30,298 tonnes in 2013.

### PELAGICS

Pelagics production comprised 35.5 per cent of total seafood production in 2014, compared to 34.6 per cent in 2013. Pelagics production decreased 16.2 per cent to 42,751 tonnes, down from 51,039 tonnes in 2013. There was a large decline in herring and mackerel production as the result of lower landings. Herring production decreased 25.0 per cent to 13,050 tonnes in 2014. Mackerel production decreased 22.1 per cent to 3,614 tonnes in 2014. Capelin production increased 4.0 per cent in 2014, totalling 24,159 tonnes, as the result of greater utilization of male capelin.

Production Volume  
by Sector, 2014



Note:

- Total production volume = 120,322 tonnes.
- Sector components may not sum due to independent rounding.

Source: DFA



## GROUNDFISH

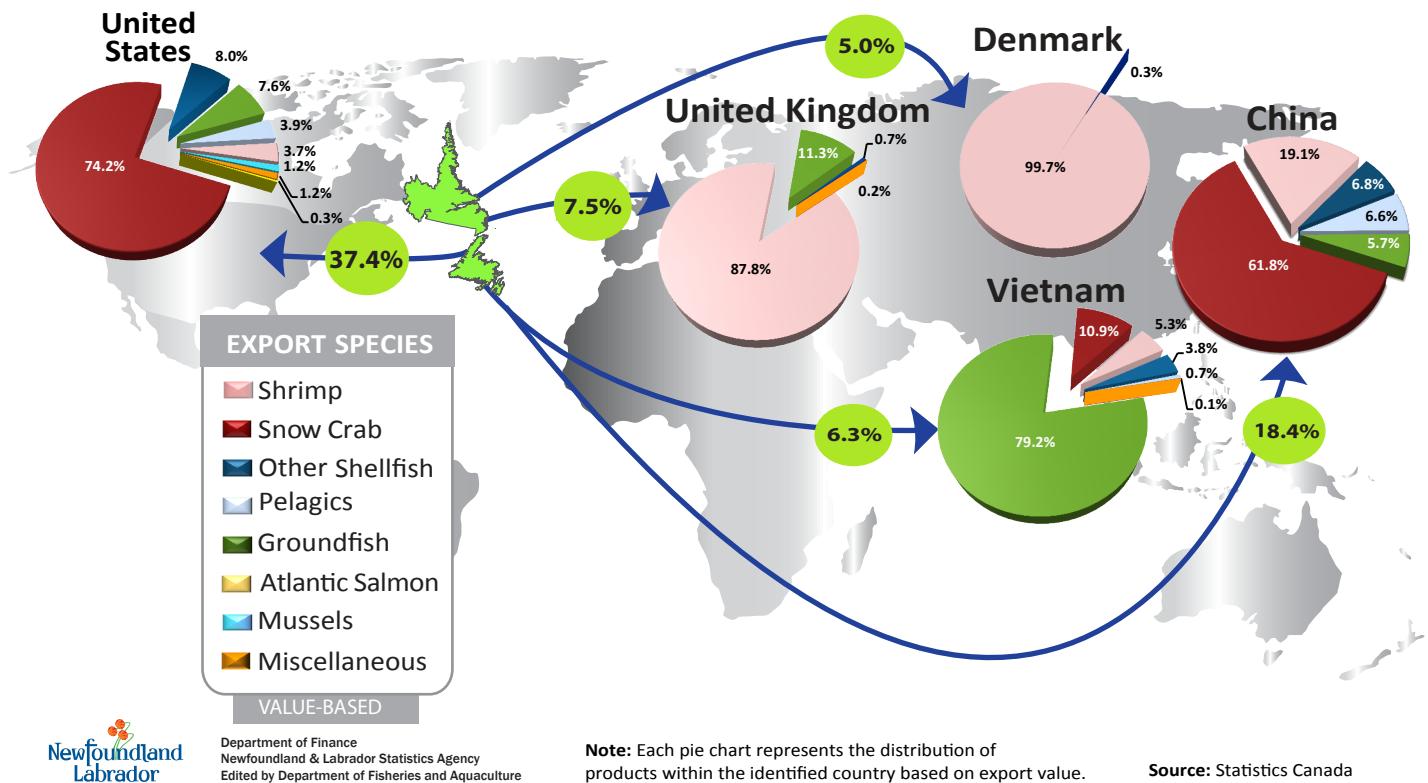
Groundfish production accounted for 11.5 per cent of total seafood production in 2014, up from 7.7 per cent in 2013. Groundfish processing increased to 13,835 tonnes, recording a 22.2 per cent increase compared to 11,323 tonnes in 2013. Much of this increase resulted from higher production of flounder, cod, and turbot.

## AQUACULTURE

Aquaculture production comprised 7.8 per cent of total seafood production in 2014, compared to 17.2 per cent in the previous year. The final processing volume of aquaculture products decreased by 63.1 per cent in 2014, compared to 2013.

**What seafood products are available from Newfoundland and Labrador's exporting companies? Find out here in our Seafood Products Directory:**  
[www.fishaq.gov.nl.ca/marketing/seafood\\_products](http://www.fishaq.gov.nl.ca/marketing/seafood_products)

# TOP FIVE WORLD MARKET DESTINATIONS FOR SEAFOOD PRODUCTS NEWFOUNDLAND AND LABRADOR, 2014



## MARKET OVERVIEW

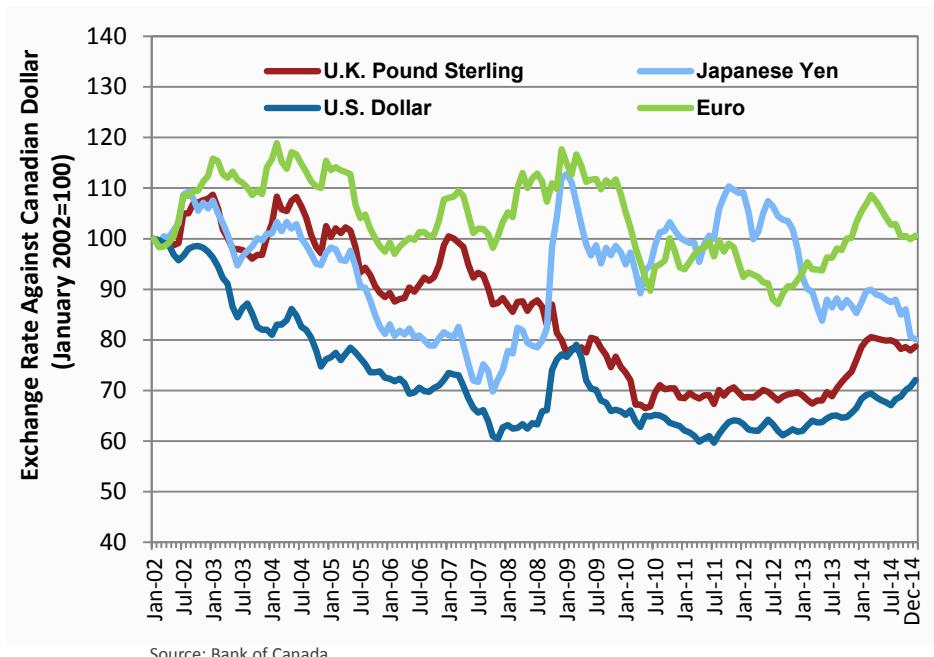
Global seafood demand and prices remained strong in 2014. Consumers were attracted by the health benefits of seafood consumption. An increase in income and an improvement in distribution channels also contributed to the strong prices experienced in 2014. Newfoundland and Labrador seafood is exported to more than 40 countries around the globe. From January to November 2014, the province's seafood industry exported products valued at over \$837 million, up approximately 7.4 per cent from the same period in 2013. The corresponding volume of seafood exports decreased, down 5.0 per cent to 126,600 tonnes.

The United States remained the largest export market for Newfoundland and Labrador seafood, representing 37.4 per cent of export value from January to November 2014. China followed as the second largest export destination, representing 18.4 per cent of export value. Other key markets, also based on export value, included the United Kingdom at 7.5 per cent, Vietnam at 6.3 per cent, Denmark at 5.0 per cent, and Russia at 4.6 per cent. These markets represented 79.2 per cent of the province's value of seafood exports.

After appreciating for a number of years, the Canadian dollar has been depreciating against currencies such as the United States dollar, the British pound, and the Euro. A weaker Canadian dollar makes Canadian goods comparatively less expensive in these markets, which results in higher returns for Canadian producers. However, the dollar has continued to strengthen against the Japanese Yen, having the opposite effect on the value of seafood exports to Japan.

## SELECTED FOREIGN EXCHANGE RATES

Indexed to January 2002



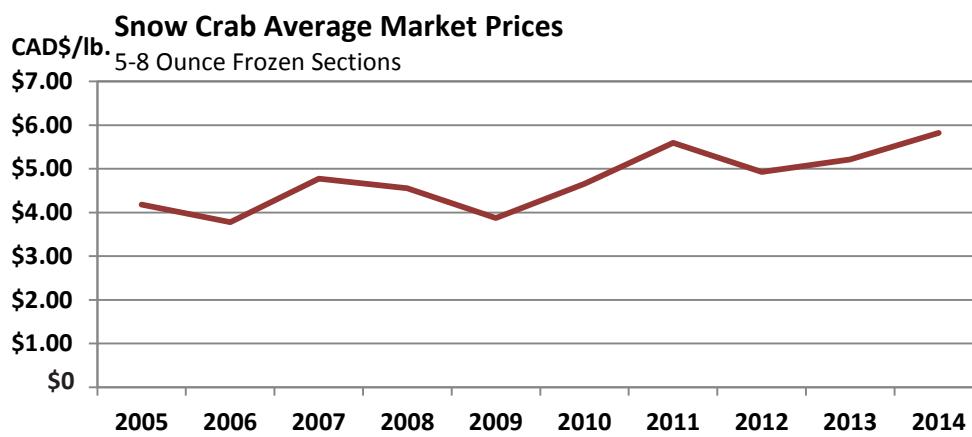
## SNOW CRAB

Snow crab was the most valuable seafood export for the province in 2014, worth over \$363 million for the first 11 months of the year. The United States remained the largest export destination for snow crab, accounting for 63.9 per cent of export value, with China following at 26.3 per cent. While snow crab consumption has increased in China, the country still remains a major re-processing destination, with finished products ultimately exported to Japan, the United States, and Europe. Market prices for snow crab increased in 2014. According to Urner Barry Publications Inc., the average market price for 5-8 ounce sections increased 4.2 per cent to US\$5.27 per pound, up from US\$5.06 per pound in 2013. In terms of Canadian dollars, the average price increased to \$5.82 per pound in 2014, up from \$5.21 per pound in the previous year.

## SHRIMP

The value of shrimp exports was over \$241 million for the first 11 months of 2014, up 7.0 per cent from the same period in 2013. Strong market prices tempered a decrease in export volume, down nearly 12.7 per cent. The lower volume was due to a decrease in the TAC for shrimp. The key markets for cooked and peeled shrimp, in order by value, were the United Kingdom (48.5 per cent), Denmark (21.7 per cent), the United States (10.5 per cent), and the Netherlands (9.2 per cent). The major markets by value for shell-on, frozen-at-sea shrimp were Russia, China, Iceland, and Denmark. According to Gemba Seafood Consulting, the average market price for 150-250 count cooked and peeled coldwater shrimp rose 37.7 per cent to 63 Danish Krones in 2014. In Canadian dollar terms, the average price increased 33.7 per cent to \$5.43 per pound.

## AVERAGE MARKET PRICES



Source: Gembia Seafood Consulting, Bank of Canada

## COD

Cod exports were valued at \$13.6 million for the first 11 months of 2014, up 36.9 per cent from the same period in 2013. The United Kingdom and the United States were the largest export destinations for Newfoundland and Labrador cod, representing 48.6 per cent and 39.4 per cent of total cod export value respectively.

## PELAGICS

There was a slight decrease in export volume for pelagics in 2014, down 1.1 per cent; however, the value increased 10.8 per cent. The value of capelin exports increased 21.8 per cent to approximately \$25.7 million. China was the largest market for capelin, accounting for 38.6 per cent of export value, followed by the United States and Taiwan. Mackerel export value was down 71.9 per cent due to lower landings. The value of herring exports increased to \$12.3 million, up 50.8 per cent relative to the January to November 2013 period. This resulted from an increase in export volume at the beginning of 2014, which likely comprised product that was harvested and processed in 2013. The largest market for herring was the United States, representing 49.9 per cent of the herring export value.



### ADVANCING ENERGY EFFICIENCY IN THE PROCESSING SECTOR

Energy efficiency is important to developing a viable and environmentally friendly seafood industry by reducing the cost of production as well as reducing its carbon footprint. In 2009, funding was provided to develop an Energy Reduction Handbook to identify opportunities for Newfoundland and Labrador processors to reduce energy costs. There were energy audits completed on three processing operations and they identified plant refrigeration as the largest consumer of electricity.

In 2014, funding was provided for the installation and evaluation of new refrigeration monitoring systems to address the high refrigeration energy cost to three fish processing operations. This technology was developed by TechCold International Solutions of New Brunswick, Canada. The automated monitoring system operates by linking independent components within the refrigeration system to one central controlled unit. These systems can perform a number of adjustments automatically, which ensures the overall system is running in a smooth and efficient manner. It achieves energy savings by selecting equipment to handle the current thermal loading. The system can also serve to lessen the need for full-time monitoring of refrigeration by a technician, currently a requirement of the provincial fish processing operations.

Once the systems are installed, the Canadian Centre for Fisheries Innovation, through Memorial University's Faculty of Engineering and Applied Science, will evaluate the monitoring system and report on the reliability, efficiency, and variations in energy consumption between plants.



## RESOURCE STATUS

Management measures for commercial fish stocks, including the TAC, are established and regulated by the Federal Government through DFO. Fish stocks that straddle Canada's 200-mile limit are managed by NAFO.

Several groundfish stocks have shown signs of improvement over the past two decades. The yellowtail flounder and redfish stocks on the Grand Banks are considered to be fully recovered, and the witch flounder fishery will reopen in 2015. Other groundfish stocks, however, remain below historical levels. Many shellfish stocks are stable at relatively high levels, while shrimp and snow crab stocks have declined in some areas.

### **SNOW CRAB**

The snow crab resource has been relatively stable on the east coast of the province (NAFO Division 3L) in recent years, while it has declined in the north and more recently on the south coast. The overall TAC for the snow crab fishery in 2014 was set at 51,582 tonnes, a reduction of 1 per cent from a TAC of 52,099 tonnes in 2013. The quota was reduced by approximately 6 and 13 per cent in NAFO Divisions 3K and 3Ps, respectively, while the quota was increased by 4 per cent in NAFO Divisions 3LNO. The quotas in NAFO Divisions 2HJ and 4R remained unchanged.

### **NORTHERN SHRIMP**

The northern shrimp resource extends from the Grand Banks to the Davis Strait. Biomass estimates of northern shrimp in southern areas have declined from historically high levels in recent years. The TAC in Shrimp Fishing Area (SFA) 6 decreased 20 per cent, from 60,245 tonnes in 2013 to 48,196 tonnes in 2014. The TAC for northern shrimp in SFA 7, which is managed by NAFO, was reduced by 50 per cent, from 8,600 tonnes in 2013 to 4,300 tonnes in 2014. Canada's allocation of shrimp in SFA 7 is 83 per cent. In 2015, the SFA 7 fishery will be placed under a fishing moratorium due to a continued decline in the stock.

### **GULF SHRIMP**

The Gulf of St. Lawrence shrimp fishery is managed in four separate SFAs. The Newfoundland and Labrador fleet fishes exclusively in the Esquiman Channel (NAFO Division 4R). The TAC in the Esquiman Channel was reduced by 12 per cent, from 9,395 tonnes in 2013 to 8,249 tonnes in 2014, but the resource in this area remains at a healthy level. The Newfoundland and Labrador-based fleet, which is allocated 65 per cent of the TAC in the Esquiman Channel, harvested its full quota in 2014.

## TOTAL ALLOWABLE CATCH (TONNES)

SPECIES GROUP	2013R	2014P	
		2013R	2014P
<b>SHELLFISH</b>			
Snow Crab (Newfoundland and Labrador)	52,099	51,582	
Gulf (4R) Shrimp (Newfoundland and Labrador)	6,115	5,369	
Northern Shrimp			
-inshore (SFAs 6 + 7) (Newfoundland and Labrador)	44,287	32,602	
-offshore/special allocations (Atlantic-wide)	89,961	83,154	
<b>GROUNDFISH</b>			
3Ps Cod (15.6% allocated to St. Pierre et Miquelon, France)	11,500	13,225	
4RS3Pn Cod (Newfoundland and Labrador and Québec)	1,500	1,500	
Redfish Unit 2 (3.6% allocated to St. Pierre et Miquelon, France)	8,500	8,500	
NAFO Stocks			
2+3KLMNO Turbot (Canada 36%)	15,510	15,441	
3LNO Yellowtail Flounder (Canada 97.5%)	17,000	17,000	
3O Redfish (Canada 30%)	20,000	20,000	
3LN Redfish (Canada 42.6%)	6,500	7,000	
<b>PELAGICS</b>			
Herring (Newfoundland and Labrador stocks + 4R)	30,721	30,703	
Mackerel (Atlantic-wide)	36,000	10,000	
Capelin (Newfoundland and Labrador stocks + 4R)	36,711	36,711	

R = Revised; P = Preliminary

Source: DFO; DFA

## COD

The northern cod stock (NAFO Divisions 2J3KL) consists of an inshore and offshore component. The offshore component has been under a directed fishing moratorium since 1992. A limited inshore fishery was conducted from 1998 to 2002, and again from 2006 to 2014. In 2014, inshore harvesters were permitted an allowance of 5,000 pounds per licence holder. The northern cod stock remains below historical levels, but has increased from the 1994 to 2005 time period.

The TAC for cod off the south coast of the province (NAFO Division 3Ps) was set at 11,500 tonnes from 2009 to 2013. The biomass of NAFO Division 3Ps cod has increased considerably in recent years. In accordance with the rebuilding plan, the TAC for NAFO Division 3Ps cod was increased by 15 per cent to 13,225 tonnes for 2014.

The northern Gulf of St. Lawrence cod stock (NAFO Divisions 4RS3Pn) remains well below its historical level. The TAC was set at 6,000 tonnes in 2006, and increased to 7,000 tonnes from 2007 to 2009. However, due to a declining stock biomass, the TAC was reduced to 4,000 tonnes in 2010, to 2,000 tonnes in 2011, and to 1,500 tonnes in 2012. A TAC of 1,500 tonnes was maintained for the 2013 and 2014 fishing seasons.

## UNIT 2 REDFISH

Unit 2 redfish is located off the south coast of the island portion of the province and on the eastern Scotian Shelf. The stock has remained relatively stable over the past several years, with little growth due to low recruitment. Since 2006, the TAC has been set at 8,500 tonnes. Landings have declined in recent years due to reduced fishing effort. There is some evidence of an increase in young fish within the stock.

## NAFO-MANAGED GROUNDFISH STOCKS

### 2+3KLMNO Turbot (Greenland Halibut)

The TAC for Greenland halibut was set at 16,000 tonnes in 2007, and remained at this level until 2010, during which time NAFO adopted a new management plan for this stock. Under the plan, annual downward adjustments to the TAC were made over the past four years due to indications of a short-term decline in the stock, from 17,185 tonnes in 2011 to 15,441 tonnes in 2014. The TAC will increase to 15,578 tonnes in 2015. Canada's allocation is 36 per cent of the TAC, which is mainly fished by Newfoundland and Labrador-based vessels.

### 3LNO Yellowtail Flounder

The yellowtail flounder resource in NAFO Divisions 3LNO has experienced significant growth in the past several years. Indicators of stock status continue to be positive, and yellowtail flounder is considered to be fully recovered to levels equivalent to those of the 1980s. The TAC has been set at 17,000 tonnes since 2009, and will remain at this level in 2015. Canada's share of this stock is 97.5 per cent, which is harvested by offshore vessels based in Newfoundland and Labrador.

### 3NO Witch Flounder

The witch flounder stock in NAFO Division 3NO has been under moratorium since 1995. The stock has grown in recent years and will reopen to directed fishing activities in 2015, with a TAC of 1,000 tonnes. Canada's share of this stock is 60 per cent, which is mainly harvested by offshore vessels based in Newfoundland and Labrador.

### 3LN Redfish

The redfish fishery in NAFO Division 3LN was under moratorium between 1998 and 2009. The stock has increased substantially over the past number of years and is considered to be fully recovered. This redfish fishery was reopened in 2010 with a TAC of 3,500 tonnes. The TAC was increased to 6,000 tonnes in 2011 and 2012, 6,500 tonnes in 2013, and 7,000 tonnes in 2014. The TAC will further increase to 10,400 tonnes in 2015 and remain at that level in 2016. Canada's share of this stock is 42.6 per cent, which is mostly harvested by offshore vessels based in Newfoundland and Labrador.

### 3O Redfish

The redfish resource in NAFO Division 3O appears to have increased since the early 2000s. The TAC for this fishery has been set at 20,000 tonnes since 2005, and will remain at this level in 2015. Canada's share of this stock is 30 per cent. Harvest levels associated with this stock are low due to undersized fish and limited available fishing grounds.

### Other Stocks

NAFO-managed straddling groundfish stocks that will remain under moratoria in 2015 include 3NO cod, 2J3KL witch flounder, and 3LNO American plaice.



## DEPARTMENTAL INITIATIVES

During 2014, the department worked with stakeholders on a number of ongoing and new initiatives towards the vision of sustainable provincial fishing and aquaculture industries that achieve optimum economic contribution to Newfoundland and Labrador. The following highlights several of the department's key initiatives.

- The *Newfoundland and Labrador Sustainable Aquaculture Strategy 2014* was released. The strategy will guide the department's activities over the next five years, with the goal of fostering long-term sustainability in the aquaculture industry.
- DFA invested \$2 million in Newfoundland Aqua Services through the Aquaculture Capital Equity Program to support the development of land-based net cleaning that will improve biosecurity in the salmonid sector.
- Construction of a biosecure wharf in Milltown commenced in 2014, and is expected to be completed in 2015.
- The province supported the Federal Government in its legal action through the World Trade Organization to remove the European Union ban on seal products, and the Fur Institute of Canada and the Inuit Tapiriit Kanatami in their legal efforts to have the European Union seal product ban annulled. It also supported efforts to finalize the Canada-China agreement for market access for edible seal products into China and facilitated the implementation of the cooperative arrangement for the export of edible seal products to China and Hong Kong.
- DFA and the provincial seafood industry participated in a number of key international seafood trade shows, including Seafood Expo North America, Seafood Expo Global, China Fisheries and Seafood Expo, and, for the first time, the Seafood Expo Asia in Hong Kong.
- DFA recognizes the need for eco-certification and provided support to industry for certification efforts. Since 2008, when northern shrimp was the first Newfoundland and Labrador fishery to become Marine Stewardship Council (MSC) certified, the department contributed more than \$344,000 towards the process for MSC certification of other fisheries. DFA has also contributed to other types of certifications, including BAP certification standards for the shellfish and salmonid industries, as well as the Canadian Organic Aquaculture Standard for the mussel industry.
  - By value, 77 per cent of Newfoundland and Labrador seafood has been certified as sustainable by the MSC.

- In November, the NAFO Division 4R herring purse seine fishery became the first herring fishery in Canada to achieve MSC certification.
- Financial assistance was provided to NAIA towards maintaining organic certification for Newfoundland and Labrador blue mussels.
- DFA invested approximately \$1.7 million into research and development projects through the Fisheries Technology and New Opportunities Program in 2014.
  - In the harvesting sector, funding initiatives included continued support for the development of energy efficient bottom trawls and drop chain footgear to reduce seabed impacts; ongoing development of whelk sorting technology; vessel operational and energy efficiency audits; and lobster and halibut traceability.
  - In the processing sector, funding initiatives included the installation and testing of automatic sanitation technology; evaluation of new snow crab cooker technology; installation of automatic packaging technology; and crab waste utilization technology.
  - Marketing funding initiatives included marketing and promotion of shrimp, crab, and pelagics across the province and in Asia; promotion of farmed seafood and seal products; international trade missions and seafood shows; promotional strategies to export mussels; innovative website development; and informative marketing material for harvesters, wholesalers, and retailers.
  - In the aquaculture industry, funding initiatives included marketing and promotion of farmed mussels through website development and participation in various trade shows; purchase and installation of mussel line cleaning and seed collection technology; purchase and installation of computerized farm management system; and continued support for the organic certification of farmed mussels.
- DFA invested \$2.35 million into the Centre for Fisheries Ecosystems Research (CFER) in 2014, bringing the total Provincial Government investment to \$12.5 million since CFER was established in 2010. CFER continues to use innovative techniques to conduct fisheries research, such as acoustic surveys, and satellite tagging of northern cod and Atlantic halibut.
- The Fisheries Research Grant Program funded several research initiatives in 2014, including:
  - A satellite tagging project to track the distribution and migration patterns of Atlantic halibut in the northern Gulf of St. Lawrence. This research was carried out by the Fish, Food and Allied Workers (FFAW) in conjunction with CFER, DFO, and DFA.





- A satellite tagging program to provide information on stock movements and behaviour of northern cod.



- A tagging project to study the exploitation rates and migration patterns of inshore northern cod. This research was carried out by DFO and the FFAW, in collaboration with DFA.

- A study to investigate the productivity of the province's snow crab resource under changing ocean conditions to assist in developing management targets. This initiative is being carried out by the Association of Seafood Producers in partnership with CFER.

- A post-season snow crab survey to help determine the biomass and recruitment prospects of the province's snow crab resource. This work was conducted by the FFAW in partnership with DFO.

- A lobster science logbook and at-sea sampling initiative to collect information on catch and effort, abundance, and recruitment. This initiative was carried out by the FFAW, in partnership with DFO, during the lobster fishing season.

- In 2014, over 2,500 inspections were conducted pertaining to raw product requirements; handling and holding conditions on vessels, trailers, and unloading sites; buyers and processing licence compliance checks; aquaculture sites; and products shipped through Port aux Basques.
- There were 20 audits conducted on licensed processing facilities in 2014. These audits ensured that each licence holder was complying with the requirements specified under the *Fish Inspection Act* and specific licence conditions.





## OUTLOOK FOR 2015

Global seafood demand remains strong as the number of consumers who comprise the world's middle class is increasing. Consumption habits are moving towards increased demand for higher quality and higher valued products. This, combined with a favourable Canadian dollar, bodes well for the Newfoundland and Labrador seafood industry in 2015. It will partially offset the negative impacts of resource declines expected in the shellfish sector and lower anticipated production levels. The Canadian dollar is depreciating against several currencies in key export markets. If this trend continues, it will have a positive influence on returns to seafood producers, as approximately 90 per cent of the province's seafood is exported. In addition, sustainable seafood remains a key priority for many retail and food service buyers. A large proportion of the province's seafood products meet a number of highly recognized sustainability standards such as MSC and BAP.

The Canada-Korea Free Trade Agreement came into effect January 1, 2015. Nearly 70 per cent of South Korean fish and seafood product tariff lines will be duty free within 5 years and all remaining duties on seafood will be eliminated within 12 years. This agreement provides opportunities for provincial seafood producers.

### CAPTURE FISHERIES

In comparison to 2014, fish landings are expected to remain relatively on par in 2015, with increases in groundfish resources and declines in the shellfish sector. Landings for all key groundfish species are anticipated to rise, including flatfish and cod. Shellfish landings are expected to decline as a result of quota reductions in the shrimp fishery. In addition, the SFA 7 fishery will be placed under a fishing moratorium due to a decline in the stock.

The global supply of coldwater shrimp is expected to continue to decline in 2015. Warm water shrimp is recovering from disease issues and regaining market share. It may be challenging to maintain the coldwater shrimp market prices reached in 2014. The supply of snow crab from other major seafood producing areas, such as Alaska and Russia, is expected to be higher in 2015. Higher global supply of snow crab increases competition among producers and could impact market prices. If the Canadian dollar continues to depreciate, gains from the exchange rate may offset any potential price declines. The global whitefish supply is expected to remain fairly stable in 2015, which may mean a steady demand for cod from Newfoundland and Labrador.

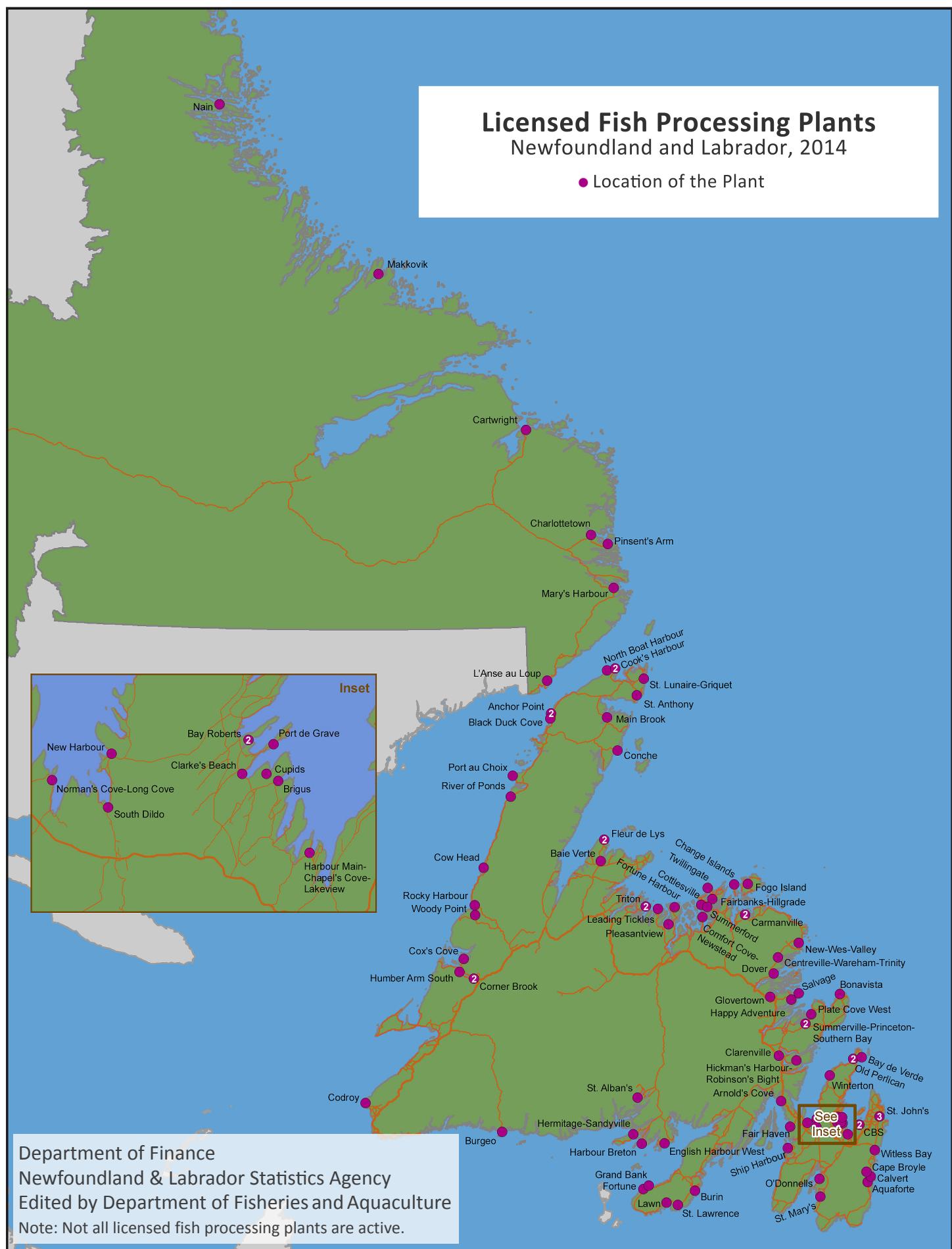
### AQUACULTURE

Aquaculture production is anticipated to increase in 2015, relative to 2014, as Atlantic salmon production is expected to rise. Recent challenges experienced by the salmonid sector are not anticipated to impact production over the medium to long term. It is projected that in 2016 production volume will recover to the volume recorded in 2013. Mussel production and market prices for aquaculture products are anticipated to remain relatively stable in 2015.

# Licensed Fish Processing Plants

Newfoundland and Labrador, 2014

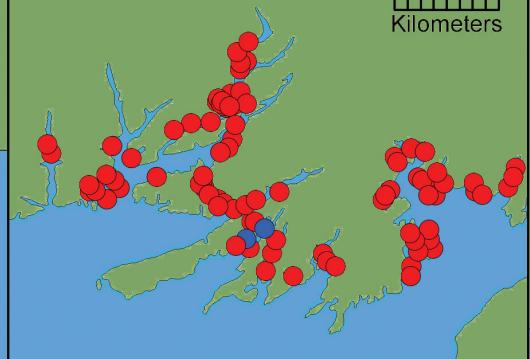
● Location of the Plant



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Edited by Department of Fisheries and Aquaculture  
Note: Not all licensed fish processing plants are active.

### Connaigre Peninsula

0 5 10 20  
Kilometers



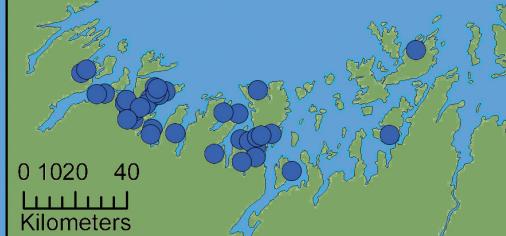
### Licensed Aquaculture Sites

Newfoundland and Labrador, 2014

- Salmonid/Hatchery
- Shellfish

### Notre Dame Bay

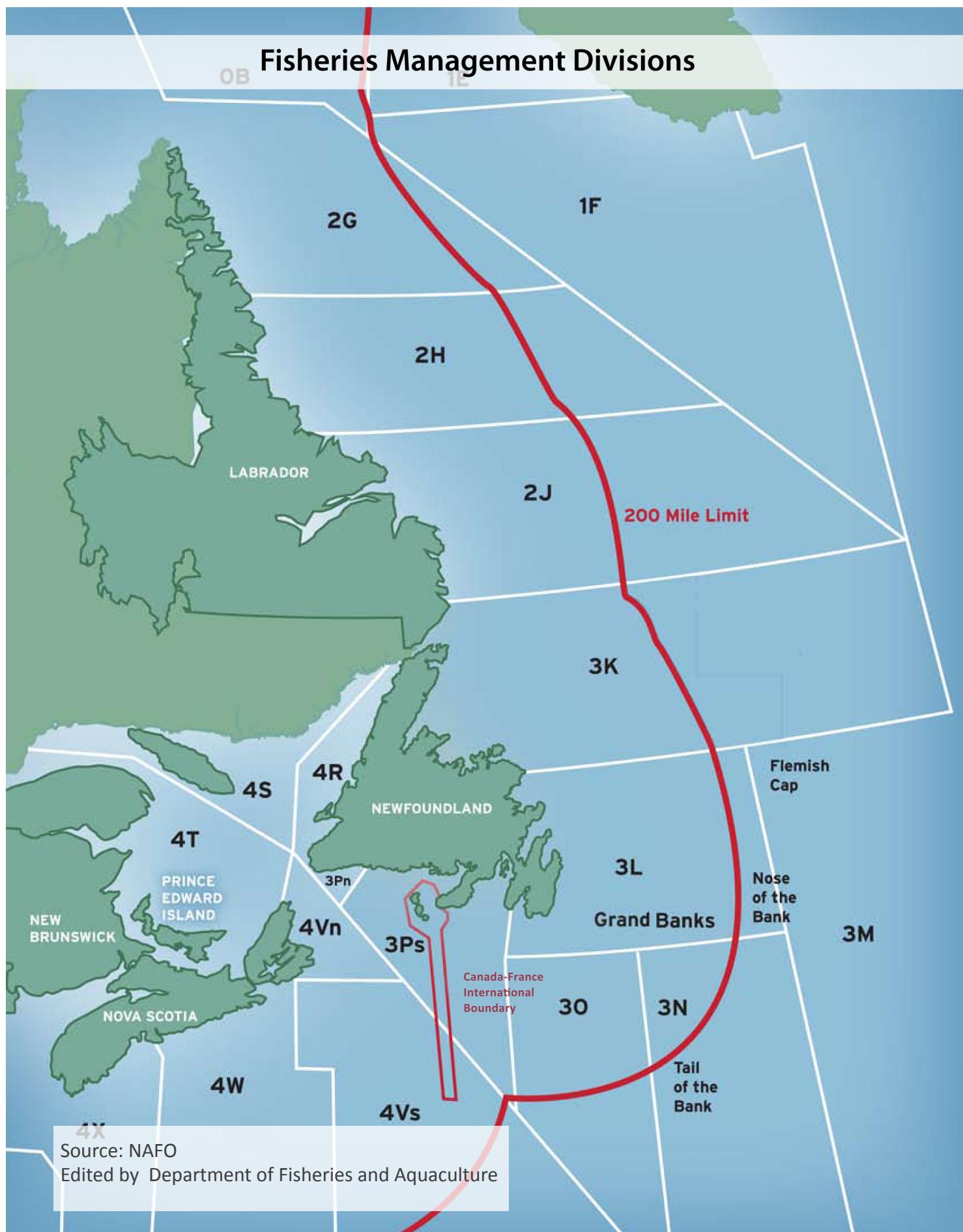
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Kilometers



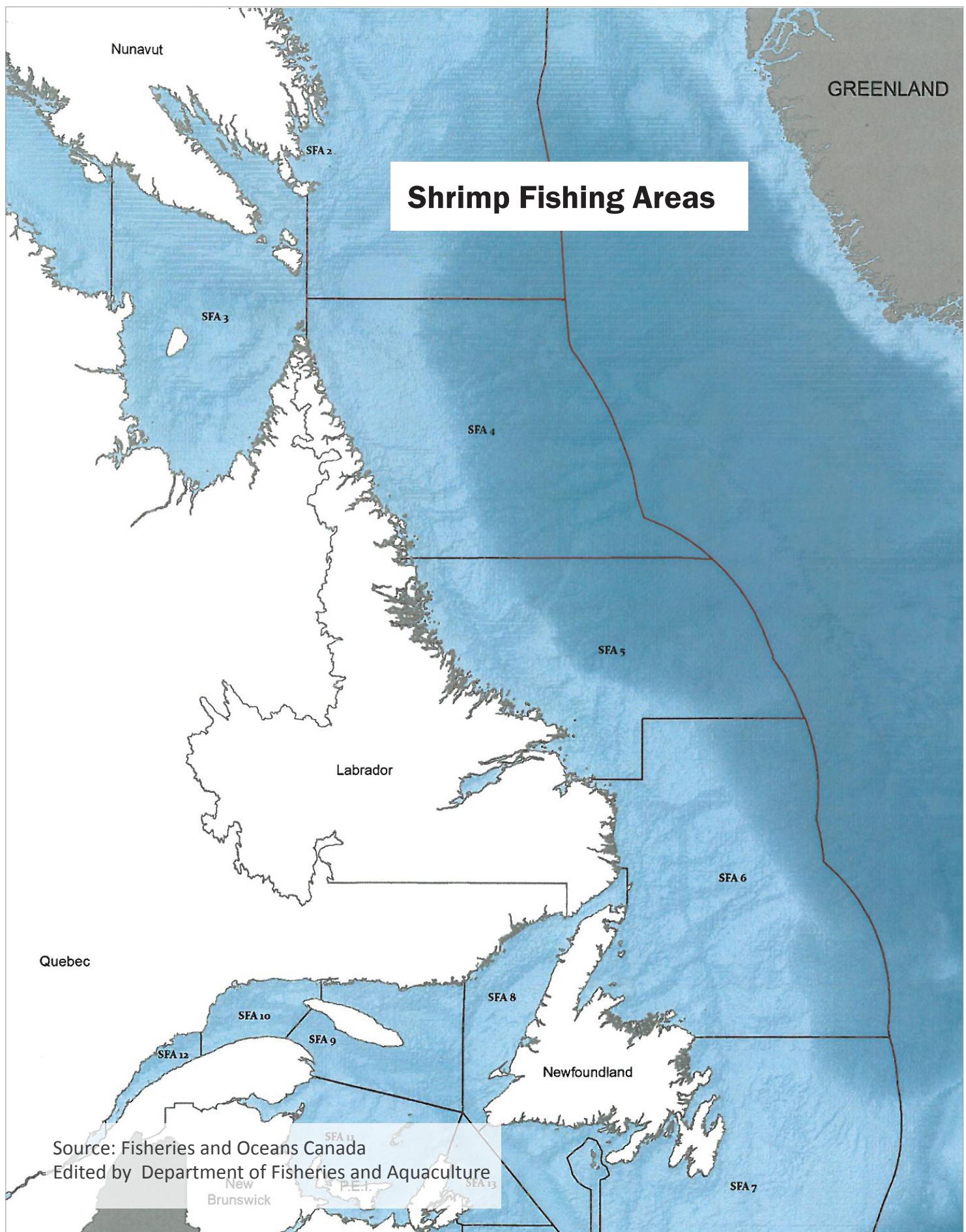
### Notre Dame Bay

### Connaigre Peninsula

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## Shrimp Fishing Areas



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## PHOTO REFERENCES

Front and back cover feature image: crab harvesters on the water before sunrise

Front cover inset: harvesting crab, mussel farmers, processing shrimp, and Chef Jeremy Charles preparing salmon

Message from the Minister: capelin harvesting, processing, and the Newfoundland and Labrador booth at Seafood Expo

North America

Page 1: variety of Newfoundland and Labrador seafood

Page 2: snow crab harvester

Page 3: fishing vessels in Black Duck Cove

Page 8: mussel farming, two photos of salmonid sites in Fortune Bay, and enjoying mussels

Page 9: mussels

Page 10: organic certified mussels

Page 11: plant workers processing salmon

Page 12: salmon

Page 16: freezer monitoring equipment

Page 17: snow crab harvesting

Page 20: Seafood Expo Asia, Hong Kong, September 2014

Page 21: herring, mussels, and cooked and peeled shrimp

Page 22: tagged cod, snow crab, lobster, and mackerel processing

Page 23: shrimp, cod, and snow crab

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