

Review of the *Herring Minimum Processing Requirements*

Final Draft Report

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FINAL DRAFT

EXECUTIVE SUMMARY

Report Focus: This review encompasses the *Minimum Processing Requirements (MPR) for Herring*, and focuses on the industry environment over the past 10 years, issues that led to the creation of the legislation; the views of industry associations, herring harvesters, producers other relevant stakeholders.

Report Findings: Overall, the review finds that the MPR's have had a positive impact on price to fish harvesters, increased demand for gillnet herring, resulted in increased utilization of quotas and provided herring of suitable quality for the fresh bait market.

The findings from the research, interviews and economic analysis include:

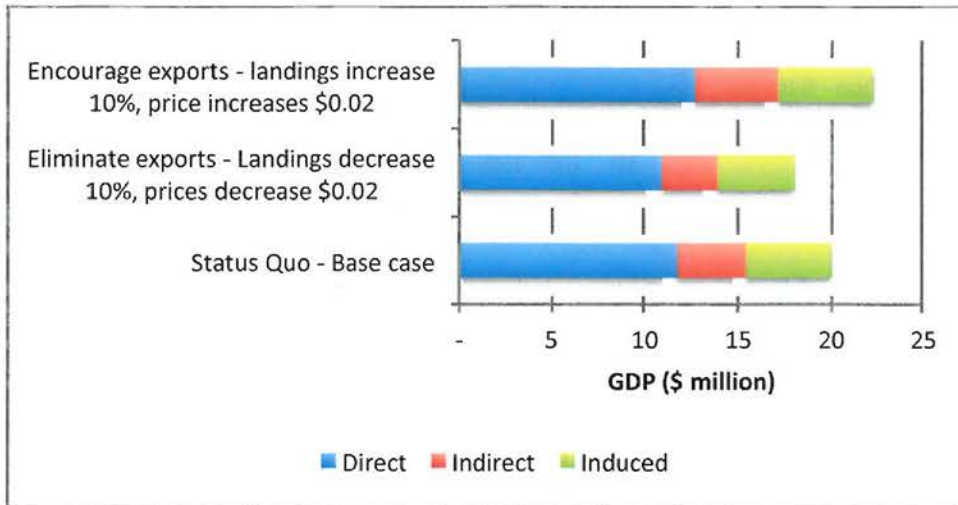
- The degree of increase in landings is not due exclusively to fresh exports as they comprise less than half of the increase.
- Prices to harvesters have increased due both supply shortages and fresh exports.
- Landed volumes have increased due to both supply shortages and fresh exports.
- Prices would not have increased to the degree they have without fresh exports.
- Value added production has not increased in proportion with landings due to fresh exports, which has limited GDP returns and employment.

The rationale for these findings are based on changes that have occurred in the past 10 years, these include:

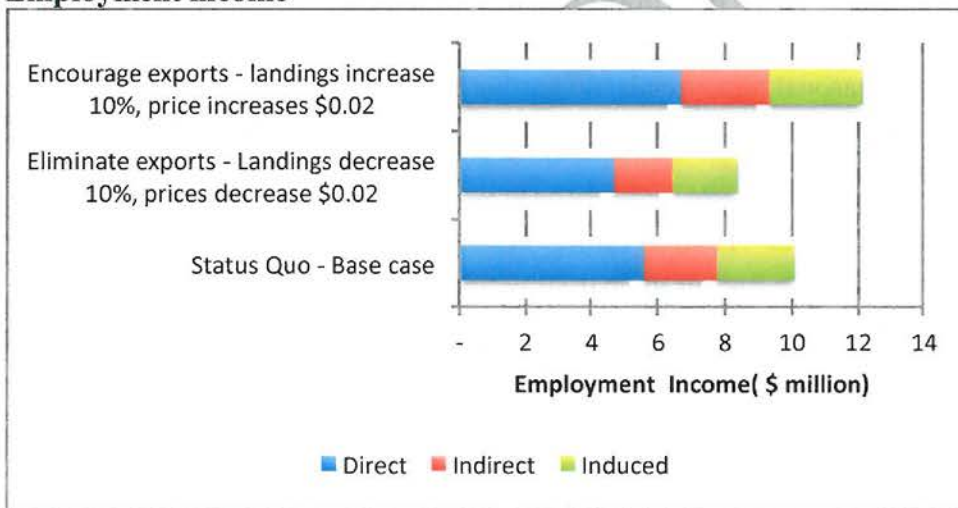
- The average estimated exports of fresh herring, included misreported production, is 2,541t and in 2011 is 2,202t, which comprises ~10% of landings.
- Landings in the period since 2006 have increased 19%.
- Landings of herring in Atlantic Canada have decreased 25% over the period of review.
- Landings in the spring, April through June, have increased 18% which is proportional with the overall increase in landings.
- Shore prices in NL, based on anecdotal information, have increased 50%, from \$0.08 in 2006 to \$0.12 in 2011.
- Shore prices in other provinces have increased 11% from 2006 until 2012, however, prices in NL are now aligned with those in other provinces.
- Export prices have increased significantly in all product categories since 2006.

The economic analysis indicates that GDP, labour incomes and person years of employment may all increase with further de-regulation of fresh exports, as indicated in the following charts:

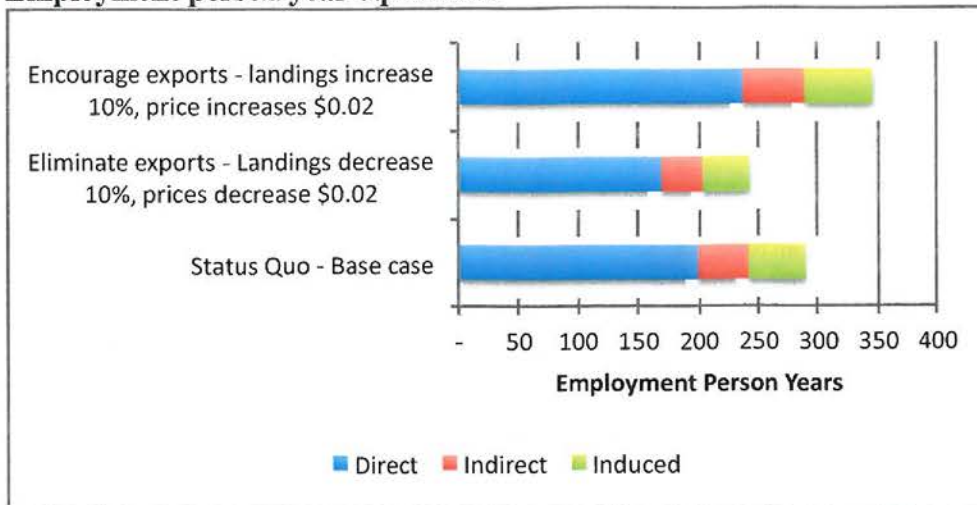
GDP



Employment income



Employment person year equivalent



Data Limitations: There were several data limitations that may have impacted the analysis and conclusions based upon the analysis, including:

- **Shore prices** – There is no historical shore price information on herring landings in NL. DFO uses proxy data from slip samples, 10%, then apply the ‘perceived’ average of shore price to herring for the entire season. This precludes the ability to examine seasonal price trends, determine if prices are different outside of allowance periods or prices paid by area of landing relative to production centre’s or points of exit.
- **Fresh export prices** - There is limited information on fresh and frozen whole herring sales as 75% appear to be used within the country for either bait, food or feed purposes.

Interviews with stakeholders, bait traders, mainland producers and NL sellers supplemented export values and import values to define the sales price and shore price parameters used in economic analysis.

- **Fresh bait export anomalies** – The quantities of fresh bait exports reported varied significantly year to year. Upon discussions with harvesters, producers and buyers it was revealed that some round fresh sales were exported, possibly as bait. Further, there were round salted fresh exports, reportedly destined for smokers, which were reported as round fresh bait and round fresh production.
- **Production reporting** – Based on discussions with stakeholders and review of point of exit audit results, reporting of fresh bait and salt herring exports have been erroneously reported as fresh herring sales. Adjustments were made unilaterally by reviewing monthly reporting results from all plants. These

adjustments attempt to account for inter-plant transfers to value-added production plants.

Contravention of MPR's: There have been significant bulk shipments, 1,500 pound containers, of salt herring shipped to producers in NB for whole smoked herring production. Sales of product in this form exceeds the MPR requirement for 110kg and may contravene the definition of salted as the shipments likely have not been cured to the point of preservation.

Stakeholder feedback: Harvesters and producers have mixed views regarding the MPR's. There are advocates and protractors from both camps. There is consensus that shore prices and harvesting participation have improved in part due to increased buying activity since fresh exports were permitted.

Other considerations: Landings of herring like fishes globally have decreased 16% and landings of herring in Atlantic Canada have declined 25% in the past ten years. This decrease in supply has certainly contributed to the 50% price increases seen in NL and 11% in the other Atlantic provinces.

This review was completed to determine whether to continue to allow bulk shipments of whole fresh herring during the periods of May 1-June 15 and November 1-December 31, or to change the Minimum Processing Requirements (MPR's) for herring to achieve greater benefit for the residents of the province.

1.1 Project Scope and Objectives

This review specifically investigates and reports on:

- Where herring is being landed, shipped, and sold.
- Prices paid to harvesters throughout the season, and during the allowance period.
- Present forms of production, destinations of product shipped and prices received.
- Views and advice of relevant interest groups, including but not limited to fish harvesters, NL fish processors, the Fish, Food, and Allied Workers Union (FFAW), and the Association of Seafood Producers (ASP).

This review addresses a number of key questions that will assist the Minister in determining whether to maintain, modify or rescind the current MPR's, including:

- Is the herring MPR meeting its objectives?
- Who benefits from fresh herring exports?
- Who, if anyone, is negatively affected by permitting fresh herring exports?
- Does permitting fresh herring exports provide the best economic return to the residents of NL?
- What is the economic value of the options available?

1.2 Legislation and Regulations

The NL Minister of Fisheries and Aquaculture (Minister) prescribes minimum processing requirements (MPR's) when granting fish processing licenses. These MPR's require that raw materials be processed to a certain point in order to maximize economic benefit to the residents of NL.

In 2006, Burke Consulting completed a review of existing MPR's. As Minister Rideout stated in July 13, 2006 *"With the changing nature of the industry, increased global competition and changing consumer tastes, we are reviewing current requirements to*

ensure that this goal is being fully realized.” Seafood trade is an intensively competitive international business; as such, seafood suppliers must meet requirements of end users in order to maintain their competitive position. Ministers recognize this fact, and provide exemptions in order to meet these changing needs.

The Burke recommendation was to ‘...*maintain current MPR’s for pelagics; however, exemption requests for fresh market opportunities should be considered if they result in increased value and gross domestic product.*’ Given increasing prices in international bait markets, making fresh herring available for crab and lobster fisheries provided herring harvesters and buyers with an opportunity to increase returns. To meet this need, a fresh herring export allowance period was included in the herring MPR’s in 2007. Correspondence regarding these notification of change to producers is provided in Appendix I.

The 2007 allowance had two conditions, as follows:

- Product is round herring for markets outside the province and the product must meet CFIA requirements.
- The processor is authorized to produce for markets outside the province labeled “Bait Only”.

Subsequently, in 2009 stakeholder responses were solicited regarding the change to the MPR’s and the appropriateness of the allowance period. The FFAW supported the initiative stating that as more buyers were participating improved prices to harvesters should result. ASP were only supportive of a very limited allowance stating that producers were interested and capable of producing all fall herring, plant employment was compromised, export markets were short supply and asserted that the herring intended for bait was being smoked and sold into the bloater market. The result of this consultation was an adjustment to the MPR’s to permit whole fresh herring exports during both the spring and fall fisheries.

All related relevant legislation details are provided in Appendix II. The specific operations regulations for herring MPR is provided:

NEWFOUNDLAND AND LABRADOR REGULATION 33/08

*Fish Inspection Operations Regulations (Amendment) under the Fish Inspection Act
(Filed June 10, 2008)*

**Schedule
MINIMUM PROCESSING REQUIREMENTS**

The following minimum processing requirements apply to all fish intended for sale outside Newfoundland and Labrador :

Species	Minimum Processed Forms
Herring	salted and packed in a carton not to exceed 110 kilograms or whole packaged in frozen form or whole fresh in bulk during the period May 1 to June 15, and November 1 to December 31.

Chronology: The chronology of industry notifications and exemptions is provided in the following table. In total there have been 19 individual exemptions granted to permit fresh exports before the spring and fall seasons. The spring season exemptions have become earlier each year with all exemptions in 2011 starting April 1. The fall exemptions vary but most are for the month of October. These exemptions have fundamentally extended the allowance periods to April 1-June 15 and October 1-December 31.

Exhibit 1.1: Chronology

Year	Event
2006	Fresh herring export pilot project was implemented for fall season as harvesters stated they could not find buyers and there was an apparent fresh bait market in the Maritimes.
2007	Directive issued to producers indicating fresh herring export exemption periods for the 2007 season. This period was May 15-June 15 and Nov 15-Dec 15.
2008	Directive issued to producers indicating fresh herring export exemption periods for the 2008 season. This period was Apr 2-June 14 and Nov 1-Dec 31, thus extending the exemption period. Fish Inspection Operations Regulation amendment June 10, 2008 providing fresh exports for bait from May 1-June 15 and Nov 1-Dec 31. There were eight exemptions from this directive granted all requesting permission to export in the fall prior to the allowance period.
2009	One exemption was granted to export fresh herring prior to the spring season allowance period.
2010	Three exemptions were granted to export fresh herring prior to the spring season allowance period.
2011	Seven exemptions were granted to export fresh herring, six prior to the spring season and one prior to the fall season allowance periods.

1.3 Information Gathering Methodology

There were three means of collecting information for this review, including:

- Gathering of information from DFA branches regarding legislation, production, enforcement regulations, exports, etc.
- Interviews with industry stakeholders including association representatives, harvesters, processors, bait users and bait traders.
- Research on harvesting, production, trade and markets.

Initial discussions with DFA provided a recommended list of producers to contact. Upon review of production information additional producers were identified and contacted. The FFAW provided contacts which they felt would adequately represent the gear and geographical distribution of the fishery.

To quantify some information regarding regional bait trade prices, use of product and harvester preference for fresh bait, NB and NS contacts were solicited.

In total 25 people, excluding government, were contacted. Though a small sample of the stakeholders in the industry, the views expressed are broad and believed to be representative of the current state of the NL herring fishery and Atlantic Canadian bait trade.

2.0

THE HERRING INDUSTRY

The herring, including herring like fishes, industry is very large, complex and likely the most broadly traded fish in the world. Herring has many uses including:

- Inexpensive human food to residents of third world countries;
- Unique cured products for traditional consumers from Europe and Asia;
- Exclusive products to discriminating consumers in first world countries;
- Bait for hook and line and trap fisheries world wide;
- Source of supply for furrier feed; and
- As a source of fishmeal which is used in animal and fish feeds and agricultural fertilizer.

The herring industry can be categorized as 'high volume and low value'. This seems to be typical of pelagic species that aggregate when spawning, making them easy to catch. Technology in the herring processing sector is very sophisticated with automation in most processes including unloading, size grading, filleting or chunking and package handling. This level of automation permits producers to maintain low direct production costs, which is necessary when producing low value commodity products.

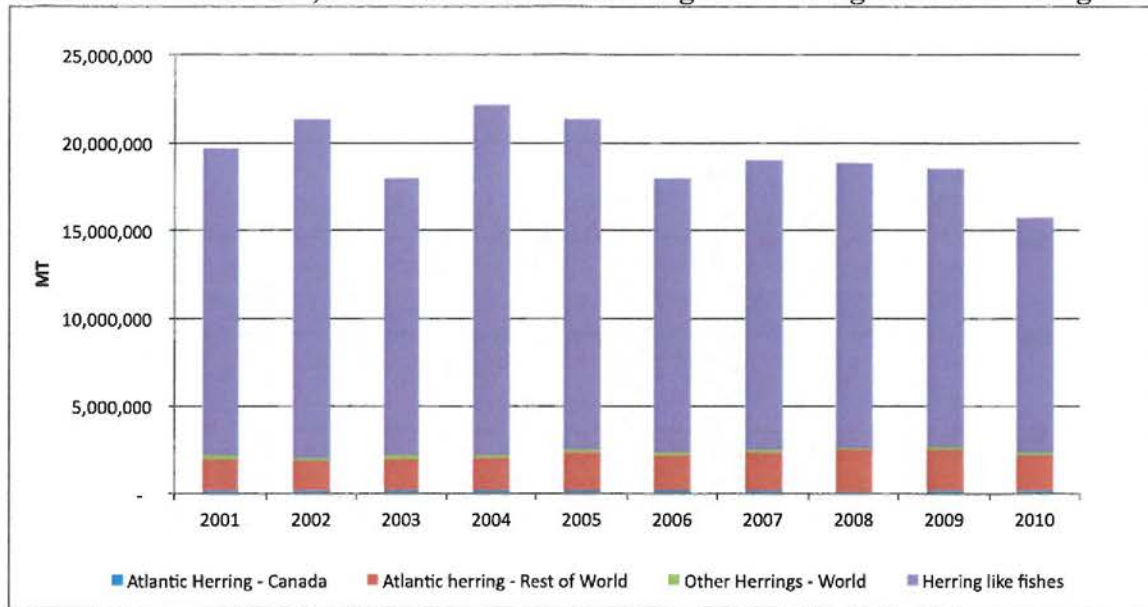
Herring markets are very mature as herring has been a staple food for thousands of years in many areas. The market is very broad as herring like fishes are common around the world. Bait is a very large part of the herring trade.

2.1 Global Perspective

Herring and herring like fish comprise 20% of the world sea fisheries landings. Landings of these species have declined 16% in the past 10 years. This reduction in catches has also occurred in Canada where landings have declined 25% in the same period. Canada's supply position of Atlantic herring has declined from 10% to 7% in the period reviewed. When contrasted with all herring like fishes Canada's supply position is less than 1% of world landings.

With ~17million MT of herring like fishes landed in 2010, the NL fishery comprises only 0.15% of this total supply. In this commodity business NL producers are very much price takers and meeting buyer expectations in terms of product form is essential to maintain markets.

Exhibit 2.1: Canadian, Atlantic and world herring and herring like fish landings



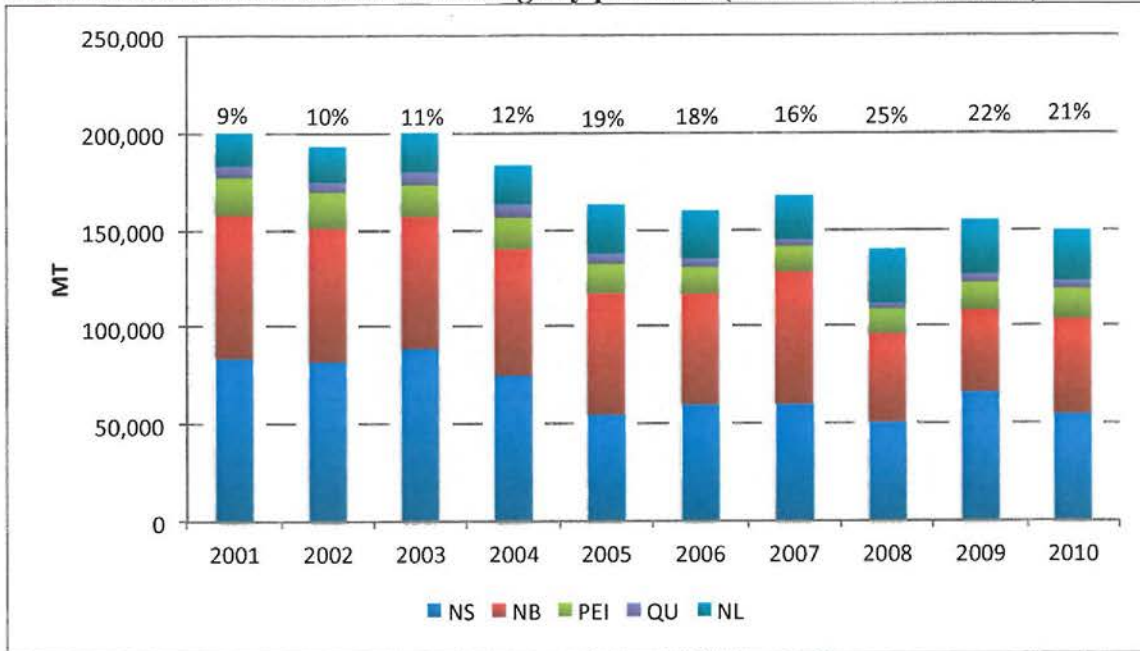
Source: FAO

2.2 Atlantic Perspective

Herring is produced in all Canadian ocean adjacent provinces. In Atlantic Canada all provinces compete for similar markets, though some have been successful in developing products and gaining market access for exclusive products. This approach has added value to the sector in NL, as the alternative is to be a commodity producer which would leave sellers to the vagaries of the market, exchange rates, supply increases, etc.

Herring landings in Atlantic Canada have declined 25% in the past 10 years, primarily from catch, and relative stock, declines in NS and NB. The NL supply share increased from 12% for the period 2001-2005 to 20% for 2006-2010. Comparing the prior and post MPR five year periods, landings in NL have increased 27% on average since the fresh export allowance was pilot tested in 2006.

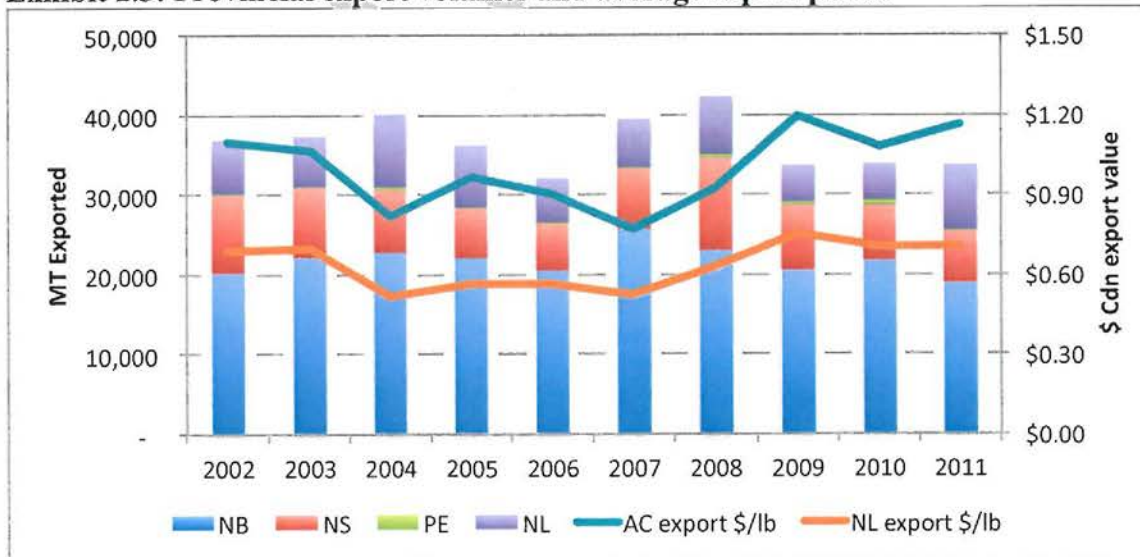
Exhibit 2.2: Atlantic Canadian landings by province (NL % share indicated)



Source: DFO

Exports from Atlantic Canada have declined relative to catch reductions. However, with ~33,000t of exports each year there is considerable trade and utilization of herring from Canada. This includes products for traditional and ethnic markets as well as herring used for personal and commercial bait purposes. In some cases roe herring may go to a reduction plant or be landfilled if no capacity to process or reduce the herring is available during peak landing periods.

Exhibit 2.3: Provincial export volumes and average export prices



Source: Industry Canada, Trade data online

As illustrated, the export value of NL herring remains relative with Atlantic Canada overall, but is consistency lower, averaging \$0.64 per pound over the period reviewed versus \$1.00 for Atlantic Canada. Provincially, PEI averaged the highest export value per

pound at \$1.71, then NS at \$1.23 and NB at \$1.03. The reasons for these higher values in other provinces includes:

- PEI – 95% of PEI's export value (\$0.8m) is herring roe exported to Japan.
- NS – NS landings have declined 35% during the past 10 years and exports values (\$21.6m) are down in proportion to landings. The NS industry is well diversified with numerous primary, bait and roe, and value-added producers. Exports value is comprised primarily of roe (40%), fillets (22%) and value-added (22%) including kippers and bloaters.
- NB – Exports (\$52.0m) from NB comprise a significant amount (54%) of value-added products including kippers and bloaters. Other major production activities include roe (29%) and herring meal (7%). The NB herring processing sector is very mature, with major processing centers in southern NB, Connors Brothers in Blacks Harbour, and smoke houses on the Gulf of St. Lawrence side located in the Cap Pele area.
- NL – Export values (\$12.7m) were higher in 2011 than at any other time in the period reviewed. Value-added comprised the highest amount of export value (45%) which included cured/pickled fillets and chunks. The other major products included whole herring (25%), fillets (13%) and roe (12%).

2.3 The NL Herring Sector

Herring is harvested in near coastal fisheries around the entire island. Most recent information indicates there are 2,261 licensed enterprises, 266 active in the commercial fishery and at least 1,000 active in the bait fishery. Total landings in this fishery are ~25,000t for commercial production and bait trade and at least 1,072t harvested for personal bait use.

Production in 2011 was completed in 35 of 89 licensed facilities. The total production value in 2011 is estimated to be \$16.0m including Canadian and international sales. NL exported herring valued at \$12.7m to 18 countries with the US, Japan and the EU as the primary markets.

2.3.1 Herring Stocks

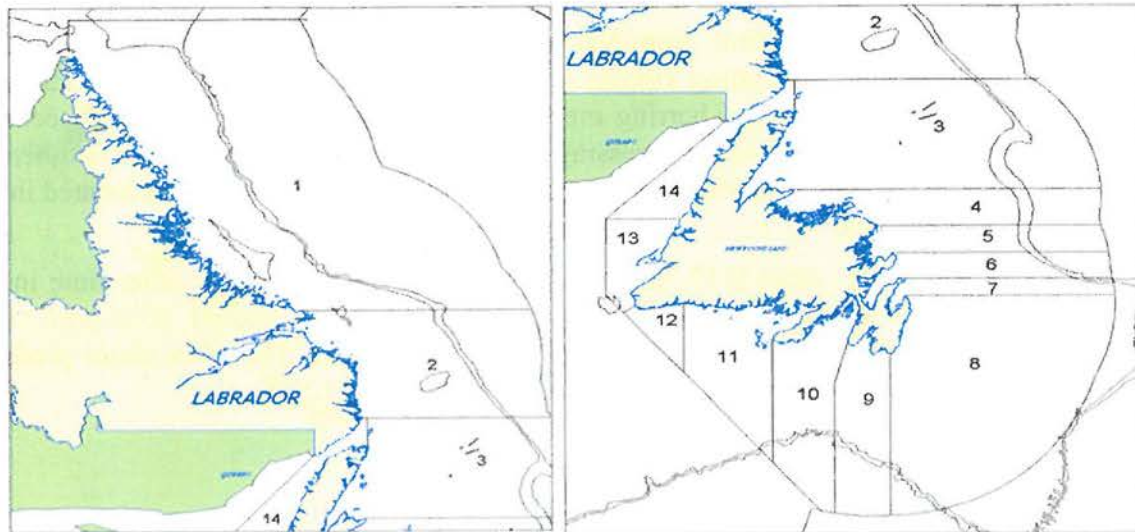
Herring within the Newfoundland and Labrador Region are at the northern extent of their geographic range. Ideal conditions seldom exist and consequently strong recruitment is very sporadic. It has been observed that good survival of young herring was largely influenced by suitable environmental conditions, principally warm over-wintering water temperatures and high salinities prior to spawning.

Large year classes of herring produced in 1968 and 1969 supported most of the stocks through the 1970s. The moderately large 1982 year class allowed stocks to rebuild in the 1980s. Since then, the 1987 and 1996 year classes have been of moderate strength, but in some areas only. However, year classes produced during the 2000s are weak in relation to

the large year classes of the 1960s. The 2004 year class is below average in all areas. There are no estimates of recruitment beyond the 2004 year class [*in 4R*]. (source: Herring Management Plan)

Herring stocks in NL have been relatively stable at lower than historical levels for a long period of time. Scientific assessments are normally completed every two years with a separate assessment being done for 4R and the 2J3KLPs areas.

Exhibit 2.4: Herring management areas



A summary of the stocks in each of the management regions is provided and indicates that the overall total allowable catches should remain at similar levels as recent years.

Exhibit 2.5: Stock summary by management area

Management Area	Stock Status	Quota Utilization	Recruitment	Prospects
4R	Spring spawner's weak Fall spawners strong but highly variable	100%	Not stated	Maintain status quo
White & Notre Dame	Low, reduced since 2009	20%	Positive	Uncertain
Bonavista & Trinity	Low, recent improvement	43%	Positive	Uncertain
St. Mary's & Placentia	Low, recent improvement	45%	Above average	Improving
Fortune	Low, recent decreases	91%	Below average	Negative

4R Stocks: The west coast of Newfoundland herring fishery is managed by a Total Allowable Catch (TAC) associated with both spawning stocks. In 2011, the quota allotted for large seiners' fleet was reached whereas the quotas for other fleets were exceeded. Between 1990 and 2004, fixed gear took on average only 30% of their quota. The arrival of the "tuck" seine in this fishing fleet increased the average for the 2005- 2010 period to 86%. The TAC is split between the various fleets as follows:

- 55% for large seiners (> 65');
- 22% for small seiners (<65'); and
- 23% for fixed gear.

The [most current 4R stock assessment](#) indicates that the survey results are quite variable, spring spawner biomass has declined significantly and though fall biomass estimates are strong they have significant risk of error. Recommendations during the 2011 assessment were to maintain quotas at current levels for the next two years.

NE and south coast stocks: Historically, east and southeast Newfoundland herring stocks have been characterized by the predominance of spring-spawning herring; however, in recent years, autumn spawning herring have formed an increasing component of the catch in most areas. Growth rates declined through the 1990s and have remained below average in all areas. Length and age to maturity have also changed. There was a downward trend in length at 50% maturity of approximately 15% for year classes from 1988 to 1996. There was also a downward trend in age at 50% maturity of approximately 32% for year classes from 1994 to 1998. Subsequent year classes to 2002 showed an upward trend in length and age to maturity but were still below average (source: Herring Management Plan)

The [latest science assessment for NE and south coasts](#) indicates that quota utilization remains low in all but Fortune Bays, stocks in most areas are well below long term averages, however total allowable catch recommendations are to maintain the status quo.

2.3.2 Processing

Herring producers are licensed under a generic pelagic license. The number of licensed pelagic plants has been declining during the period of review; however the number of operators reporting herring production has increased. This indicates that there may be additional producers participating in buying due to the fresh herring export allowance.

Most processing activity occurs in western Newfoundland and southern Labrador. There is tremendous capacity to process herring into whole frozen form in the province as the process is the same as processing mackerel and capelin.

Several producers have invested for value added production including filleting, nobbing (herring chunks) and smoking, though smoked products have not been done in recent years in NL in any quantity. This value added production requires a significant investment in capital equipment as herring, like other pelagics, is a high-volume low-value commodity business. Products must compete with similar products from freezer trawlers, third world nations, and highly capitalized northern European producers.

2.4 The Bait Trade

Pelagic and squid bait is a widely traded commodity internationally. An unknown amount of the herring, mackerel and squid produced is used for bait in numerous hook and line, pot and trap fisheries around the globe. FAO reports that in 2009 there were some 2.9 million tons of fresh and frozen whole herring, mackerel and squid exported from more than 74 countries. Some 40%, 1.2 million tons, of this whole bait species trade was Atlantic and Pacific herring.

Much of these international exports, ~16%, are comprised of fresh whole product. Fresh versus frozen exports values per pound are higher for mackerel, 14%, and squid, 127%, whereas herring values are 31% lower for fresh. This indicates that much of the fresh herring is likely destined for bait whereas fresh mackerel and squid may be primarily for human consumption.

Atlantic Canadian bait trade: The bait trade in Atlantic Canada is brisk, bait is used in several key fisheries, by use they include lobster, crab, longline groundfish and longline pelagic. Bait is widely traded internationally to meet seasonal demand for various fisheries.

Trade of bait between provinces is not documented, however, it is known to occur regularly and is done on an opportunistic basis. Bait trade between Canada and the US is also very common with fresh pelagics transferred regularly. Much of the redfish frames, by-product of fillet production, from NS is sold to eastern U.S. lobster fishermen for bait, and on average 900t of fresh herring is imported to Canada for either bait or processing.

Much of NL bait needs for lobster are provided from herring bait fishers in the province. There are significant imports of other squid bait, averaging >2,700t per year, and there have been imports of bait mackerel in two of the last 10 years.

Buyers almost exclusively are the sole supplier of bait to fish harvesters in the hook and line, pot and trap fisheries in Atlantic Canada. Large producers will normally hold bait in cold storage or procure from international sources as required. Independent buyers, lobster traders and small producers with a direct buy will normally purchase the required bait from established bait traders.

These bait traders are located in a number of locations including PEI, the Acadian Peninsula, northeast NB and southwest NS. Some of the prominent suppliers include [Shippagan Enterprises](#), [Reidpath Cold Storage](#), [Cap Pele Bait Inc.](#), RBN fisheries, [Dango Inc.](#), [Spartan Marine](#), D'eon Vernon Lobster Plugs Ltd., Logtek Inc., and D. Cunningham Bait Ltd..

Bait use: Anecdotal information suggests that bait preference changes by region, but is similar fishery to fishery within a region. The following exhibit reflect preference, ranked by type and species.

Exhibit 2.6: Bait preference by region

Region	Fishery	Bait preference
NL	Lobster	Mackerel, fresh or lightly salted herring
	Crab	Squid, mackerel, herring
PEI	Lobster	Fresh small herring
NS	Lobster	Frozen mackerel, herring, squid, redfish racks
	Crab	Frozen herring, squid, mackerel
NB	Lobster	Fresh herring, mackerel
	Crab	Mackerel

The use of frozen bait is preferred by many harvesters due to ease of use. Frozen cartons of bait can be left in totes overnight and fish are firm in the morning and easily chunked for use on hooks or in bait bags. Fresh bait tends to spoil very quickly, less than three days, though some harvesters prefer it ‘ripened’ up to 15 days. Further, fresh bait is said to be messy to use aboard making decks slippery and dangerous.

Bait use in the Maritimes ranked by species harvested is for lobster, crab, longline fishery for groundfish and finally longline pelagics. It is reported that lobster bait use is 1.5-2.0 pounds per trap and snow crab pots use up to 25 pounds per trap. All bait is replaced, or topped up, every trap haul. The bait use is much higher for snow crab pots on the mainland versus NL, [two pounds per pot](#), as the pots are 7’ diameter versus 3’ diameter and soak times tend to be longer.

Bait prices: The price of bait across all species has increased in recent years. Compiled from limited trade data and interview results, prices to harvesters in the Maritimes are estimated to be as follows:

- Fresh herring bait \$0.35-\$0.40/lb.
- Frozen herring bait \$0.55-\$0.65/lb.
- Frozen mackerel bait \$0.85-\$0.95/lb.
- Frozen squid bait \$1.00-\$1.10/lb.

Bait trade prices are relative by species with mackerel consistently higher than herring and squid higher than mackerel. Overall bait prices have increased 100%-150% in the past 10 years with much of this increase occurring in the past five years.

3.0

INDUSTRY RESPONSE

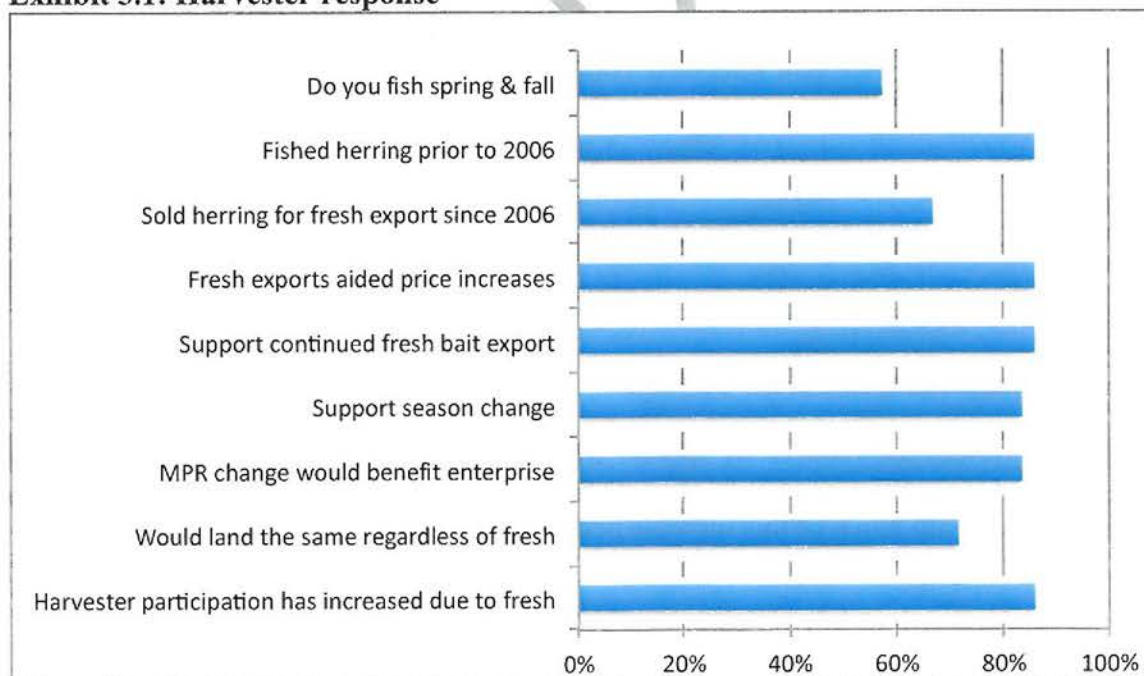
The following sections summarize responses and identify issues of concern from the harvesting and processing sectors. Overall, harvesters are much more supportive of fresh exports than producers, believing that this market has attracted more buying activity resulting in higher shore prices. Producers, for the most part, support the view that fresh exports have contributed to price increases in recent years.

Producers with significant capital investment in herring processing equipment, such as filleting and nobbing (chunks) machines, express concerns regarding lack of capital utilization and labour content reductions. These views are supported by some other producers that have less capital equipment but desire additional supply to support their workforce. Further, this view is supported by some harvesters who support providing more NL plant employment.

3.1 Harvesting Stakeholders

Harvesters, seven, from each management area were contacted and interviewed. Those interviewed were recommended by the FFAW due to their experience and understanding of the fishery in their respective areas. Representatives from each gear sector and the bait and commercial sectors were included among the six respondents.

Exhibit 3.1: Harvester response



All but one of the harvesting stakeholders was in favour of continuing fresh exports, though less than two-thirds of the respondents knowingly supplied herring for fresh exports. Further, all but one harvester believes that harvester participation and price increases are directly attributable to allowing fresh exports. The one protractor, though recognizing increased competition may have had a positive impact, expressed concern over the loss of shore-based labour content.

FFAW view: Several FFAW executives were interviewed separately and all fully support continuation of the fresh exports. Their key comments are provided:

- Permitting fresh exports resulted in increased harvesting activity in the spring.
- Outside buyers interested in sourcing fresh bait increased shore price, especially in the spring.
- Bait markets have been, and continue to be, very strong resulting in highest ever shore prices, \$0.22/lb, anticipated for fall 2012. It is acknowledged that generally herring markets have improved.
- The allowance periods should also permit for summer herring to be exported as prices have fallen off in the summer season in the past. Further, an earlier start in the spring fishery would permit better matching of demand for fresh bait as lobster seasons off the mainland open.
- There is much more participation from fixed gear sector than prior to the fresh export allowance. Gillnetters now have a much larger market, trap fishermen are active again in Labrador and the increase in activity with small boats seining (tuck seine) has improved enterprise returns and high quality roe bearing herring.
- Another contributing factor resulting in higher landings in the inshore sector was the quota management changes in 4R. This area now has quota sharing between the tuck seine and gillnet fleets and participate in a cap system.

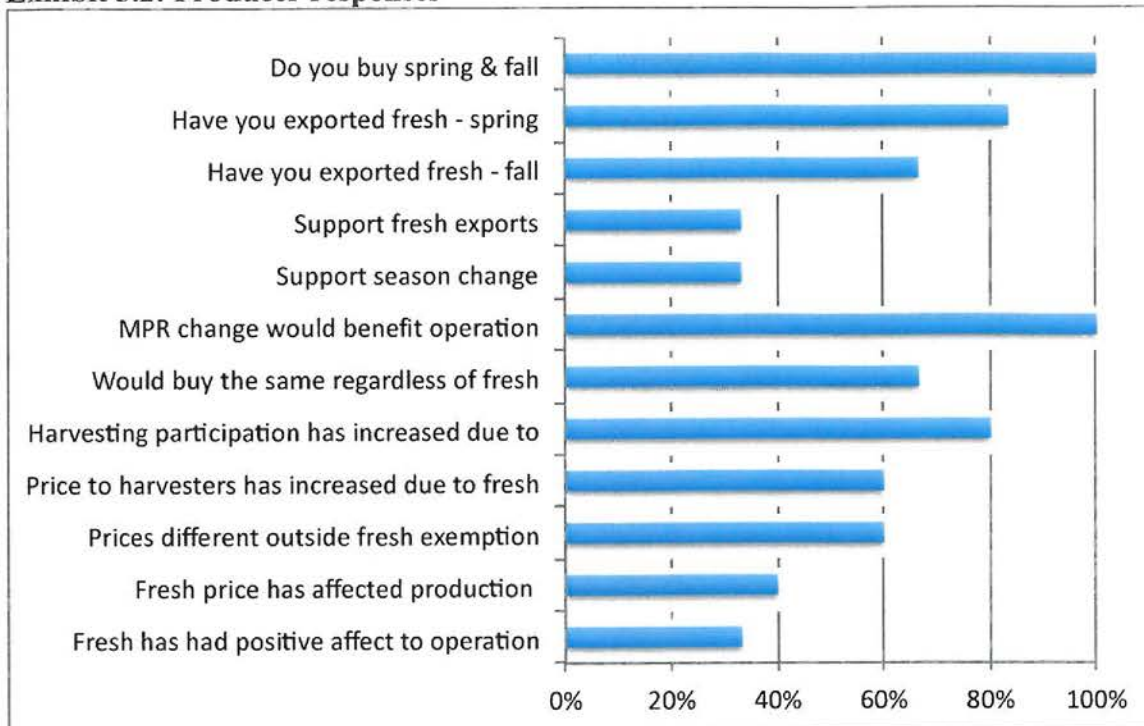
3.2 Processing Stakeholders

Analysis of producer responses permits some conclusions to be drawn:

- All respondents support changing the MPR.
- Those who support fresh exports would like no seasonal restrictions or have seasonal changes extending the period for fresh exports. This would permit fixed gear harvesting prior to November when weather restricts harvest activity.
- Others that support changes to the MPR's would either like the fresh exports allowance periods eliminated or the MPR on herring eliminated altogether, and in some cases other species.

Response rates, based on six interviews, for specific questions are provided in the following exhibit.

Exhibit 3.2: Producer responses



Relevant comments made by producers are provided and findings regarding some of their comments are further discussed.

- Maintaining MPR's may compromise the outcome of the CETA negotiations.
- Structural reform of the industry is required in order for NL producers to operate on a level playing field with other provinces.
- Processed herring products are in high demand [currently] and there is capacity to produce additional quantities of herring.
- Producers can be competitive in purchasing herring in the fall fishery.
- Much of the herring being exported is salted and sold in bulk to smoked herring producers in NB.
- Producers should be permitted to prepare product in any form the market demands at any time. This maximizes benefits to both the harvesters and producers.

Trade implications: One stakeholder stated *'our main objective, also that of ASP, for the CETA is the elimination of tariffs on fish and fishery products. The position of the Province is, at least for now, to also hold out for MPR's. We would not want the MPR to delay, minimize or derail our primary objective.'*

The objective of eliminating all tariffs on seafood through CETA is broadly shared by producers in other regions.

A recent [market report](#) states that herring attracts a 14% tariff in the EU. Review of EU import reference material provides the following tariffs for various product forms:

- [Salted or in brine herring](#) are 12%;
- [Frozen whole](#) are 15%;
- [Preserved in barrels](#) for reprocessing is 6% to a quota of 10,000t then 20%;
- [Frozen fillets](#) are 15%; and
- [Smoked herring fillets](#) is 10%.

Bulk salt herring shipments: It is estimated that more than 50%, 8,500t, of the fresh exports that occurred since 2006 have been in bulk salt format. This salted herring is destined for smoke houses in NB. These shipments in recent years appear to be reported as round fresh herring. The process for this product is:

- Herring is unloaded into bulk containers, ~1,500 pounds herring
- Salt is mixed in with the herring during unloading. Salt weight is ~300 pounds per container and costs \$300/t (\$0.1360/lb) which is \$0.0272 per pound of herring.
- The herring is initially struck within 3-4 days and containers, if not already shipped, must be rotated every 3-4 days thereafter.
- Containers are shipped as backhauls to the mainland with transport rates delivered NB ranging from \$1,300 to \$2,000 per 45,000 pound load (\$0.0288-\$0.0444/lb).



These shipments are substantiated by bills of lading from random inspections conducted at Port-aux-Basques (e.g. five shipments November 25, 2011). Anecdotal information suggests that some of these salted herring are prepared during unloading of the boat rather than in a processing facility. In accordance with DFA it is a requirement for any processing to be conducted at a licensed processing facility.

There has been no allowances for shipping salted herring in larger containers, therefore shipping salted whole herring contravenes the MPR, '*salted and packed in a carton not to exceed 110 kilograms*'. This method of salting also appears to contravene the definition of salting '*salted means a process where fish is treated with sodium chloride or a brine solution in order to preserve the fish to the extent that the uptake of salt ceases and the fish does not become tainted or decomposed for a minimum of 6 months if refrigerated without freezing and salting.*'

Conclusions: Shipments of whole salted herring for smoke houses is not being reported correctly, container sizes are larger than those permitted in the MPR,

and preparation of the product may contravene CFIA and DFA processing criteria.

Associations response: Discussions with both ASP and SPONL were conducted, however, neither association wished to provide a formal response.

SPONL members are split on the issue as some members support fresh, and salted, herring exports, while others with significant capital investment in processing equipment or in need of raw material to retain workers are not supportive.

ASP declined to respond on the issue. Though some members participate in fresh exports, some members have considerable capital investment in processing equipment and would prefer utilizing this capital than having fresh herring exported.

4.0 SUPPLY, PRODUCTION & TRADE

Landings have increased, in volume and in terms of quota utilization, since fresh exports were initially permitted. There are several gear sectors that participate in the fishery including seiners, large and small, tuck seiners, gillnet and trap.

Tuck seining, basically purse seining using small vessels, has increased significantly in recent years. This harvest method provides higher catch rates, lower harvesting costs and improved quality versus gillnet fish. The drawback of tuck seining is that herring must congregate, which occurs during spawning, to harvest in volume.

Gillnet activity has increased since 2007, in part due to increased demand for bait products and also due to stocks being more prevalent nearshore in certain areas. Gillnet herring is reported to be of lower quality than other harvest methods, with torn heads and gills due to entanglement. This raw material is very suitable for bait purposes.

Price information is very difficult to quantify as DFO has not entered individual purchase slip data for ~10 years. In place of this data they take a proxy of 10% of all slips for all species and estimate average prices paid. In herring particularly it does not reflect the seasonal quality differences due to fat content, spawn condition, bait market demand etc. In discussions with harvesters and producers, limited information was available regarding price trends over the past 10 years, however, recent prices paid to harvesters were obtained.

Herring, and herring like fishes, is likely the most broadly traded fish commodity in the world. NL is a price taker in the global market for all commodity products such as frozen fillets, smoked products and bait. NL producers however, appear to have been quite successful in developing and maintaining specialty product markets.

4.1 Examination of Shore Prices

Price Index: Given that everything else remains the same, measuring the price index of NL shore prices to other regions should reveal whether or not NL shore prices have changed in proportion.

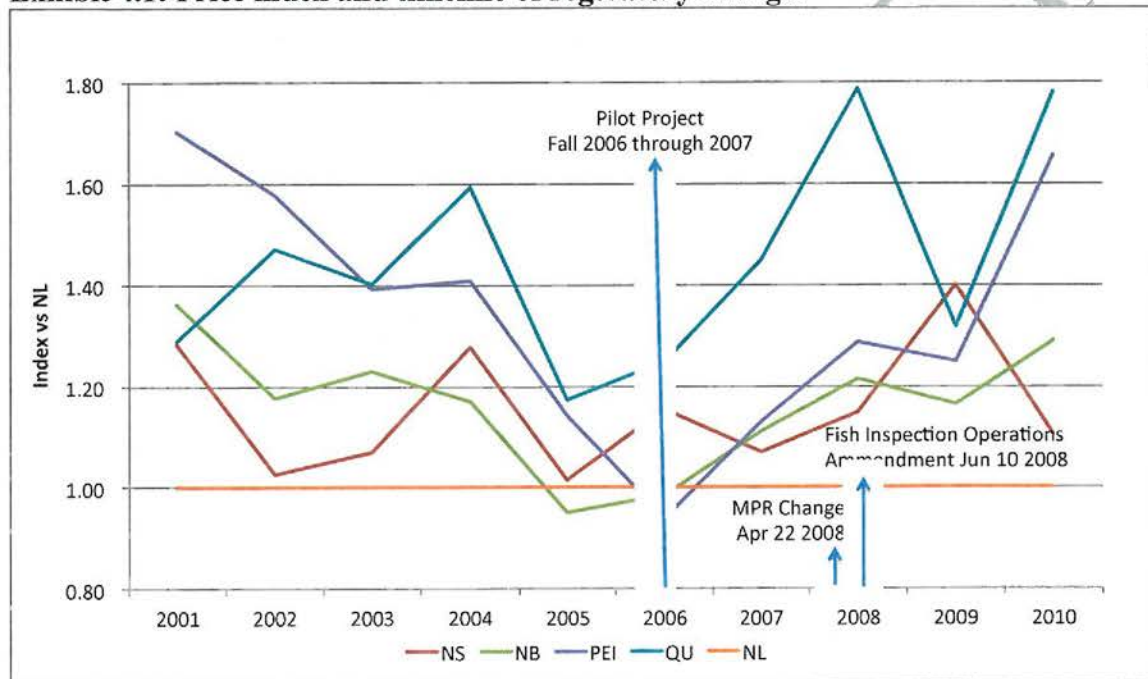
The following exhibit illustrates the price of herring in other provinces relative to NL for the period before and after 2006. This is based on annual DFO data which for NL proxy shore prices are used. Review of this exhibit indicates:

- For the period reviewed prior to fresh exports the average price difference was 11.8% higher than NL. For the four years after permitting fresh exports the average price gap increased to 18.1%.
- The index trend is down in two of three provinces, indicating the price gap has closed.
- All provinces had very similar prices during 2005; the year prior to allowing

fresh exports.

- NS relative prices have varied up and down almost each year. Overall, NS prices have trended higher relative to NL over time and the price since 2006 has been relatively higher in NS.
- NB prices increased relative to NL from 10.3% to 19.4% before and after fresh exports commenced.
- PEI index reveals the largest gap except for 2005 and 2006. On average the index trend is down.

Exhibit 4.1: Price index and timeline of regulatory changes

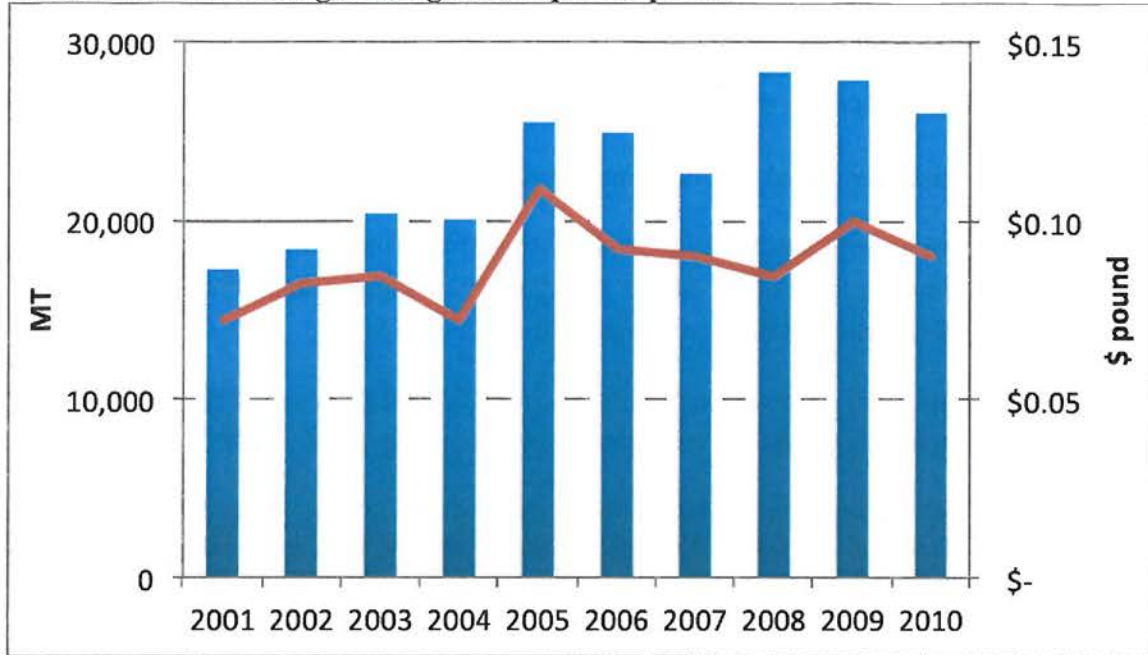


Conclusion: *NL shore prices are much closer to other provinces than indicated by DFO pricing information and the price index analysis completed.*

For the period reviewed DFO NL has not been entering individual landing slip data. In place of this detailed data DFO sampled up to 10% of the slips and averaged the prices. In the case of herring this has resulted in an average price for the entire year. This is a *significant data limitation as the seasonal prices are not revealed and when DFO prices are contrasted with anecdotal information they are significantly lower.*

For example, in the following chart, shore prices appear to have remained below the \$0.10 level in all years except 2005. This is simply not the case, prices are known to have increased to the \$0.12-\$0.20 during this period.

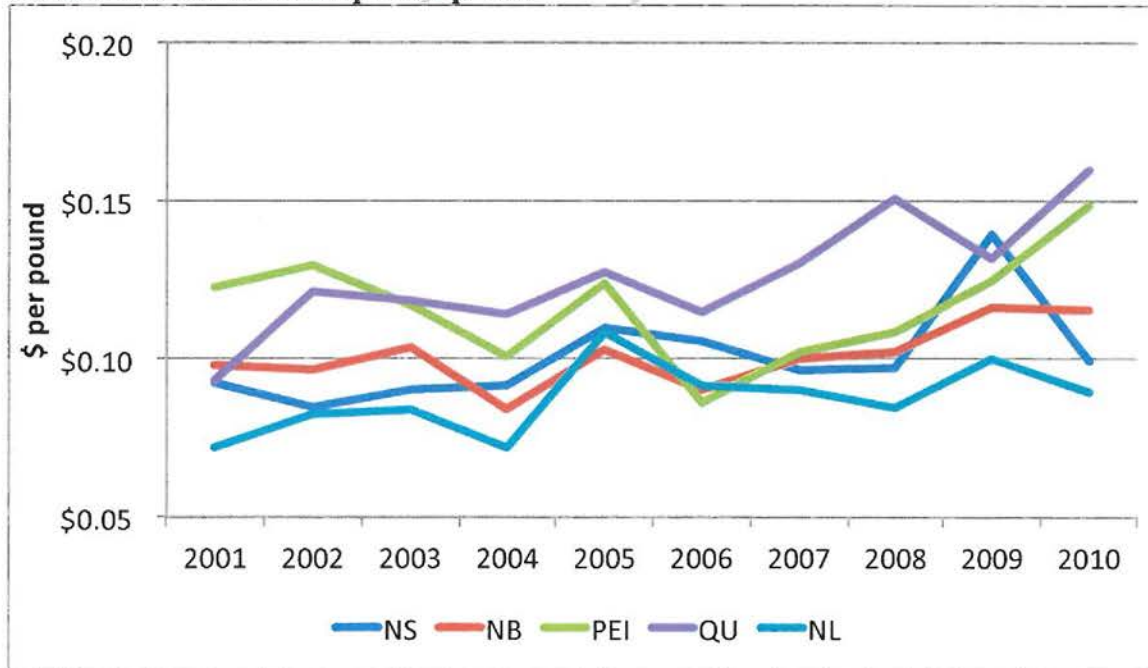
Exhibit 4.2: NL herring landings and reported prices



Source: DFO

Examining prices in each of the Atlantic provinces clearly illustrates the upward price trend over the past 10 years. DFO in both the Gulf and Maritimes regions enter individual slip data, therefore, the data sources there are much more reliable than NL proxy prices.

Exhibit 4.3: Provincial reported prices



Source: DFO

Interview respondents indicate that actual prices paid were \$0.07-\$0.10 up to 2005 when prices started to increase. This is similar to what occurred in other provinces in 2005.

The FFAW surveyed some members to determine prices received; coupled with interviews conducted it is clear that prices certainly vary by season with higher prices normally seen in the fall fishery. Other contributing factors to price variation include quality of fish, and location of landing, which gives consideration to collection costs, and.

- 2010 prices remained similar to prior years at \$0.10 +/- \$0.01
- 2011 saw significant price increases with spring prices ranging from \$0.10-\$0.20 and fall prices from \$0.13-\$0.22. A summary of sample data, 9% of landings, from DFO indicates the average price in 2011 was \$0.12.
- 2012 spring prices have been from \$0.15-\$0.21 and prices paid this past summer have been in \$0.18-\$0.20 with similar prices anticipated in the fall.

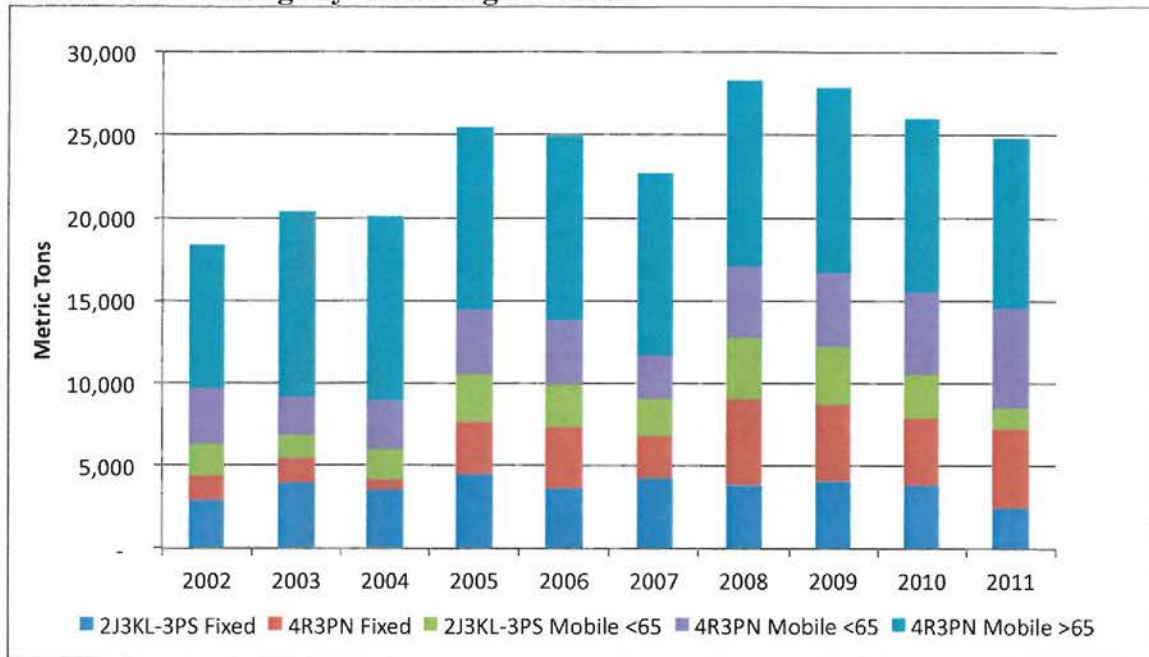
***Conclusion:** Giving consideration to this anecdotal pricing information it appears that the NL prices are much closer to other provinces than indicated by DFO proxy pricing, averaging \$0.10+ in the late 2000's and increasing since 2010.*

Prices outside fresh export periods: Harvesters stated, and buyers confirmed, that prices can be lower outside of the fresh export allowance periods. This is reported to be due to export markets not being able to support shore prices. For example, it is reported that export values can currently support a \$0.16 shore price whereas fresh exports support a \$0.20 price.

4.2 Harvesting

Landings, on average, have increased since introduction of the MPR in comparison to the prior five year period. The large mobile fleet in 4R consistently lands their allocation. Fixed gear sector landings vary from year to year based upon availability of herring and size of herring in the catch. Landing activity in the 4R fixed gear fishery has increased significantly since 2006 and in recent years is almost fully subscribed.

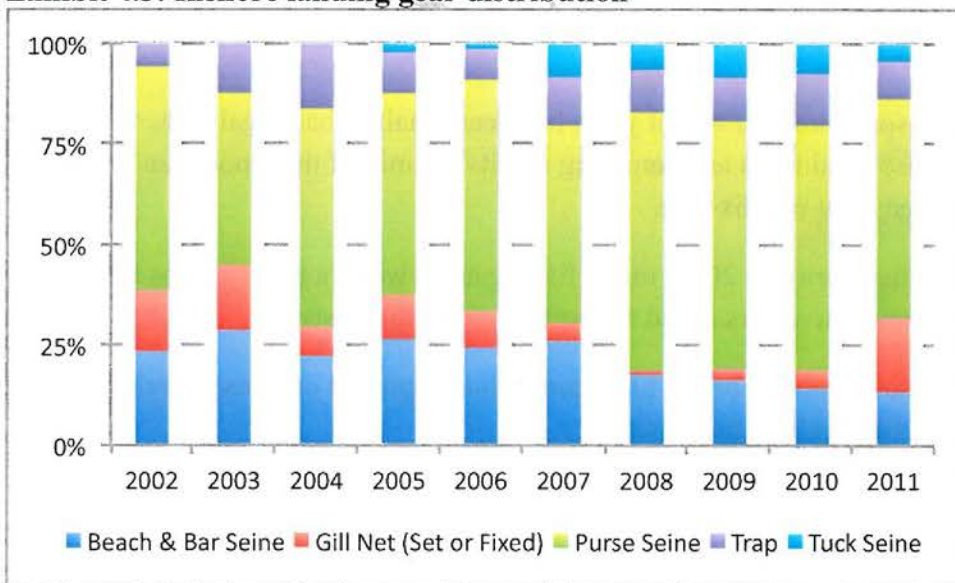
Exhibit 4.4: Landings by area and gear sector



Source: DFO

Inshore effort: The gear type used to execute the fishery has gone through a transition with more effort and catch coming from tuck seines in place of beach/bar seine and gill nets. Landings of all inshore fisheries by area and gear sector are provided in Appendix VIII.

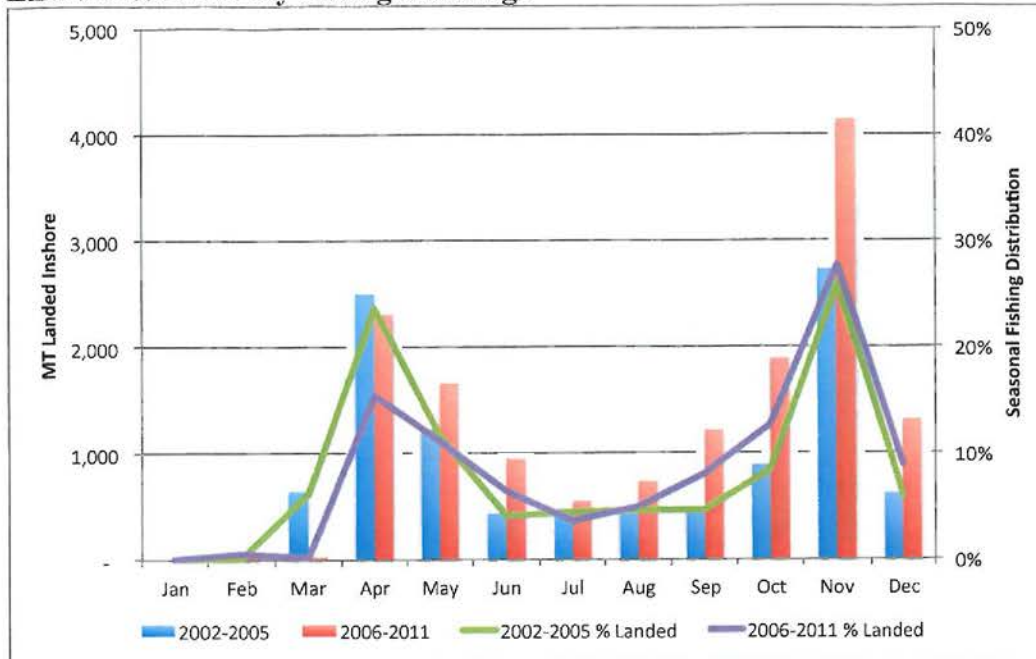
Exhibit 4.5: Inshore landing gear distribution



Source: DFO

Seasonality: On average landed volumes have increased every month from May through December. Proportionally fishing effort has decreased in the spring and increased in the fall.

Exhibit 4.6: Monthly average landings

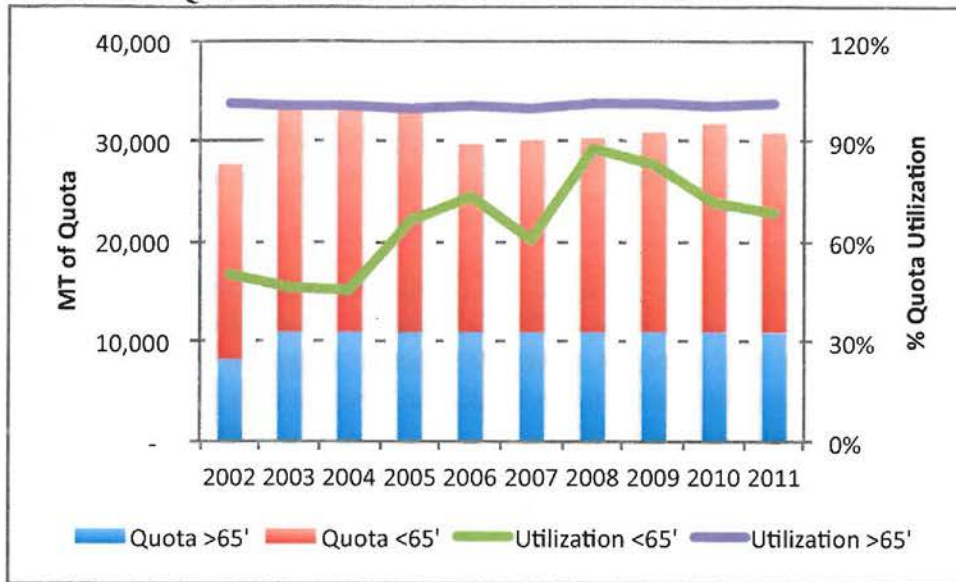


Overall, inshore landings have increased 41% since 2006 versus prior years. The >65' fleet has remained static.

Quota utilization: As illustrated below the offshore, >65' vessels, fully utilize the quota every year. The inshore, including <65' 4R seiner fleet, have increased quota available to them since 2007, though not utilizing the entire quota in any of the years. Discussions with the FFAW and harvesters provide some rationale for this underutilization and increases in inshore catches:

- Herring in some areas in recent years has been smaller than legal size, <8.5", and given license conditions and sampling results the mix of this undersize in the catch exceeds that permissible.
- In earlier years, prior to 2005, many fishing areas were not serviced as quantities available from harvesters could not justify collection costs.
- The increase in the number of tuck seiners has increased catches overall as they fish more effectively than gillnets.
- Nearshore stocks are more abundant in some areas in recent years resulting in higher gillnet catches.

Exhibit 4.7: Quota utilization offshore and inshore



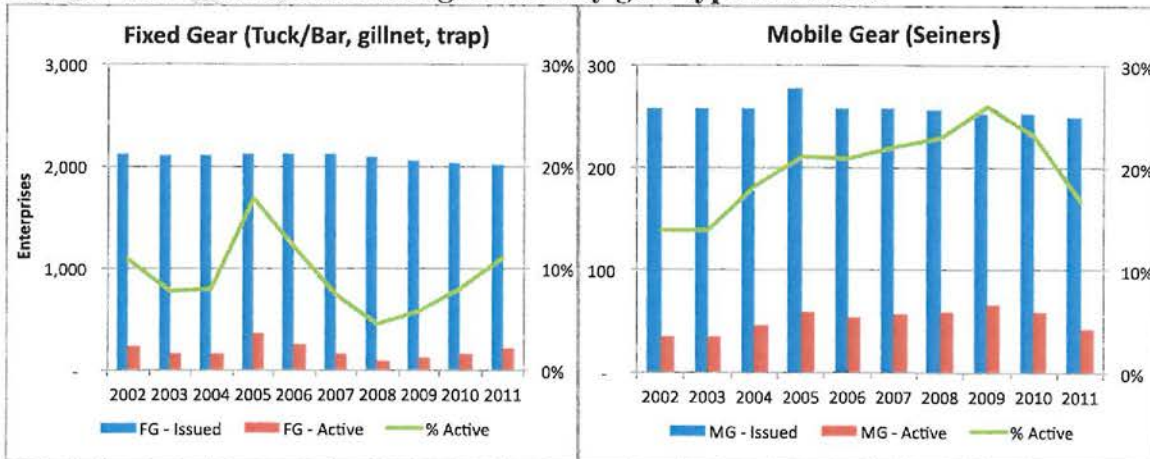
Source: DFO

Participation: Historically, the commercial herring fishery has supported up to 2,500 fishing enterprises. A prohibition on new entrants was implemented in 1995. In 2008 a total of 1,648 fish harvesters were licensed to harvest Herring on a commercial basis. In addition, 2,507 licenses were issued to take herring for bait in other commercial fisheries. The commercial fish harvesters in 2J3KLPs include five communal licenses for Aboriginal harvesters. (Source: Herring Management Plan)

The number of commercial licenses issued has remained static over the period of review. The number of active enterprises in the fixed gear sector has declined 36% on average since the MPR was implemented but increased to previous levels in 2011. This may be attributed to the increase in number of tuck seiners participating which have significantly more harvest capacity versus gillnets. The number of seiners has increased to 49 enterprises versus 46 on average before the MPR.

The number of licenses issued for each management area is illustrated in Appendix VII.

Exhibit 4.8: Commercial herring licenses by gear type and sector



Source: DFO licensing

Conclusion: Though anecdotal evidence suggests that enterprise participation in the fishery has increased this is not substantiated by license activity.

Bait fishery: There is also a very active bait fishery in NL with an estimated 1,000 vessels participating on average. There is a bait allocation in the overall quota for 2J3KLPs of 1,600t.

Catches are not reported, but surveys are regularly conducted to determine the quantities and participation levels for all areas except 4R. This survey information indicates there were 2,198 licensed *gillnet* bait enterprises with 903 active based on survey data from 2007-2009 and 2011. These gillnet enterprises landed an average of 6.5t which indicates that the gillnet bait fishery annually is ~1,500t.

The 4R bait fishery is said to very active and significant; however, the most recent science assessment for the area state that no information regarding participation or landings was available for the 4R bait fishery.

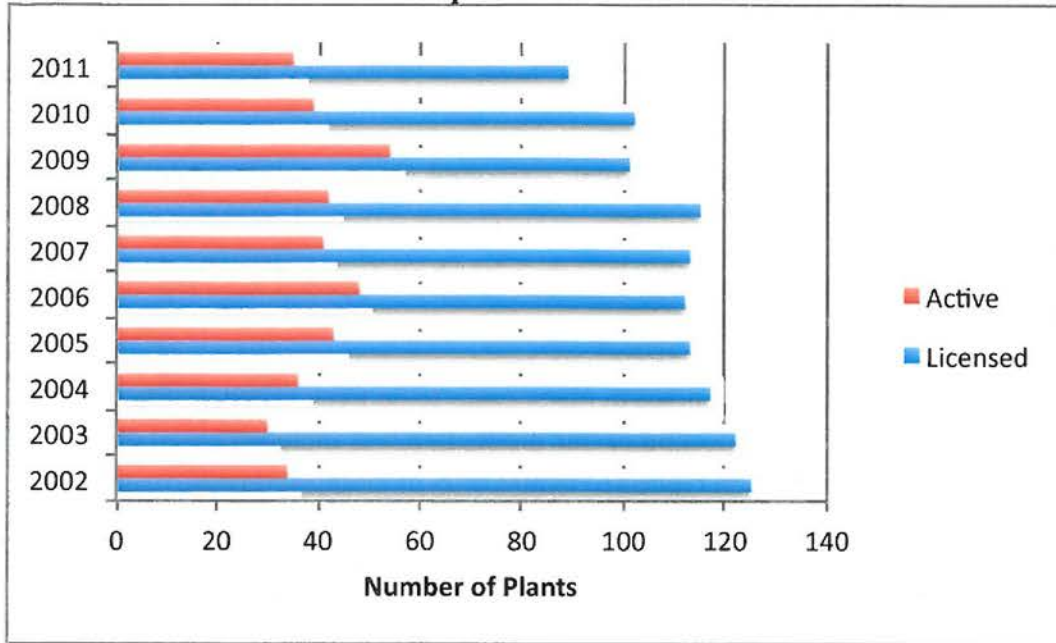
Locally supplied herring bait is used primarily for lobster fishing and is preferred in fresh, up to 15 days, or lightly salted form. There is an active fresh bait trade market among harvesters and it is reported that trade prices have increased significantly since 2005. Prior to 2006 fresh bait was sold for ~\$0.15/lb., then increased to \$0.25-\$0.30 in recent years and is now as high as \$0.40/lb.

Conclusion: Fresh bait market prices have increased along with shore prices, increasing lobster harvester costs significantly as bait is now the highest cost for lobster harvesters. (Source: personal communication)

4.3 Production

The number of licensed pelagic plants has decreased steadily from 2002 until 2011. The number of plants reporting herring production increased in 2005 and has hovered around 40 plants since that time. Fresh bait exports were reported from three plants in 2006 increasing to nine, 11 then 17 in 2007 through 2009 respectively. During the past two years six plants have reported fresh bait exports.

Exhibit 4.9: Licensed and active plants

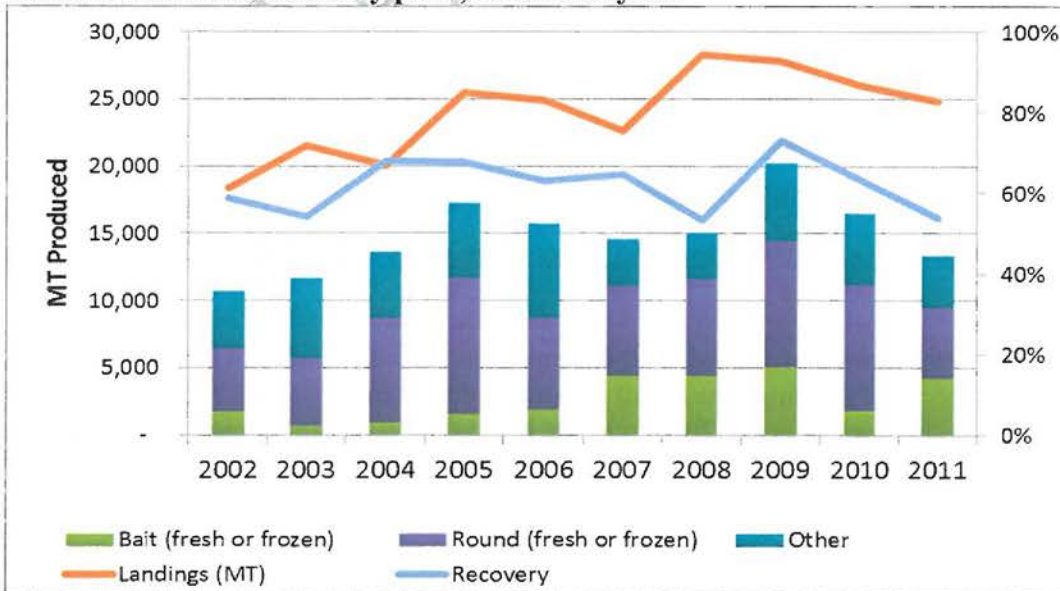


Source: DFA

The following exhibit illustrates the total product by category for each of the years reviewed. This information is contrasted with the catch, illustrating the overall yield from landed product.

The data on this chart is limited as it does not provide examination of fresh bait over the review period. When the fresh exports were permitted in 2006, product reporting methods were changed. This change provided more detail for whole herring reporting than prior to 2006.

Exhibit 4.10: Production by pack, catch and yield



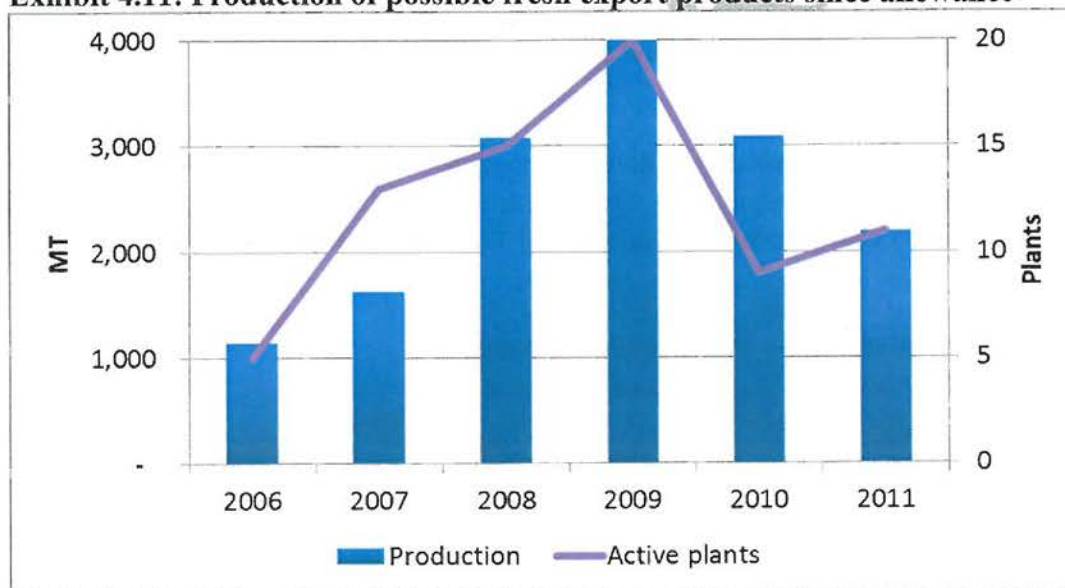
Note: The Exhibit was revised by DFA to protect proprietary information as per the Fisheries Act.

Fresh exports: Since fresh exports started in 2006 reporting was changed to differentiate fresh and frozen bait and round products. It appears that 2006 was a transition year as many producers continued to use the old reporting methods even through the fall fresh bait fishery.

The following exhibit illustrates the total *estimated* fresh exports since 2006. This information was derived from:

- Reports of fresh bait exports, as the information is supposed to be reported monthly through the production reports.
- Round fresh production appears in many cases to be fresh salted destined for smoke houses in NB. A portion of this production was included based upon comparison of production reports to export bills of lading and confirmation by producers. The total round fresh quantities reported were adjusted to exclude estimated transfers of fresh herring to plants for production.
- Round salted was included as it is likely exported as fresh salted.

Exhibit 4.11: Production of possible fresh export products since allowance



Note: The Exhibit was revised by DFA to protect proprietary information as per the Fisheries Act.

Fisheries Act - Section 4, Note: Contains Proprietary Information

The export of fresh bait increased in the years after the allowance was permitted until 2009 when reports of declared fresh bait exports reduced in 2010 and 2011. Round fresh and frozen production prior to 2006 was in the 5,000t-10,000t range; since that time frozen production has remained static at [REDACTED] whereas round fresh production has varied from [REDACTED] to [REDACTED] since 2006.

Fisheries Act - Section 4, Note: Contains Proprietary Information

Conclusion: Production reporting has been inconsistent since 2006 and evidence from point of exit audits and discussions with producers indicates that more fresh herring is being exported than indicated.

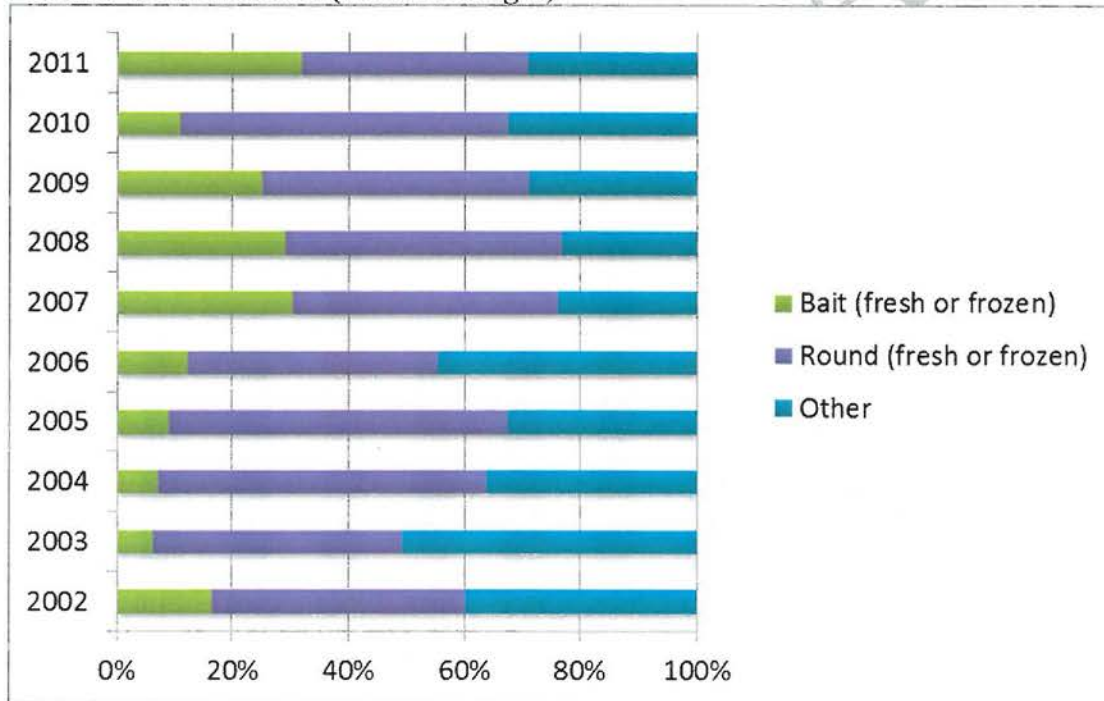
Pack mix: Examination of pack mix prior and subsequent to formalizing the fresh allowances reveals:

- Bait products, fresh and frozen, have increased from 1,400t to 4,000t.
- Fillet production has declined 24% by volume.
- Round fresh and frozen has remained relatively the same in total pack mix, but actually increased 10% by volume.
- Vinegar cured product have remained similar by volume, [REDACTED] annually, but reduced in proportion of overall pack mix.

Fisheries Act - Section 4, Note: Contains Proprietary Information

Conclusion: The increases in average landings, 18%, has been diverted primarily to round fresh and frozen production.

Exhibit 4.12: Pack mix (finished weight)



Source: DFA production reports

Note: The Exhibit was revised by DFA to protect proprietary information as per the Fisheries Act.

4.4 Markets and Trade

Outlook: Commentary from international trade publications best summarize the current global market situation:

For herring, tighter supplies are indicated and therefore prices will continue to increase. Lower imports in most of the markets were registered in 2011, but prices went up. This is expected to continue into 2012 (Globefish July 2012)

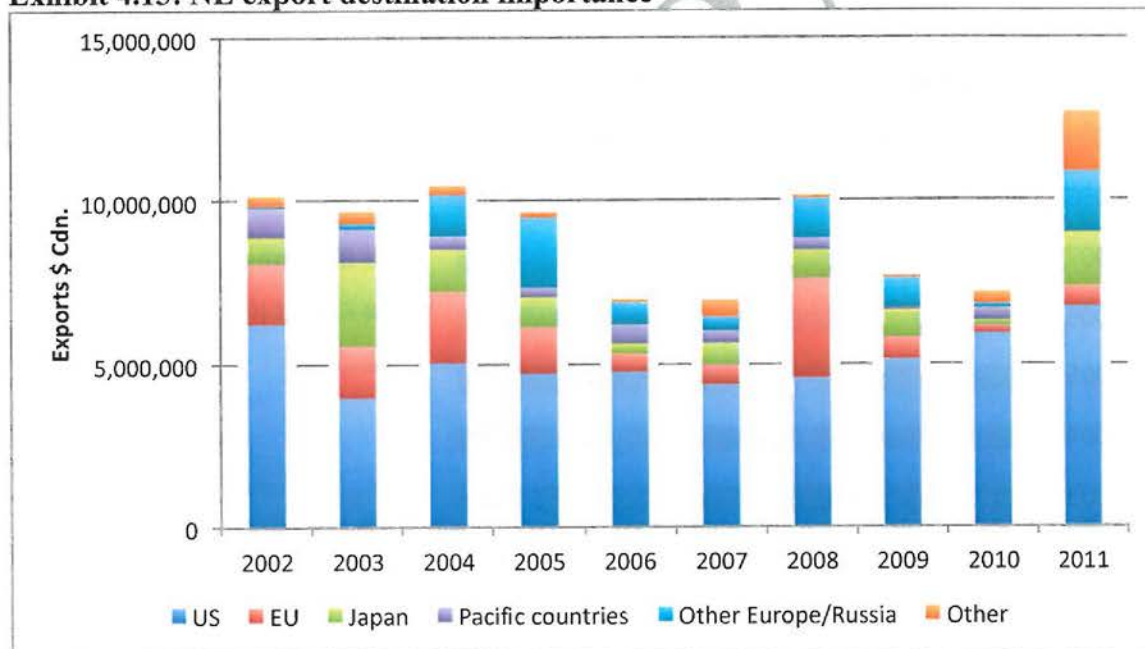
The outlook for the herring market is more of the same: tight supplies and high prices, coupled with good demand (Globefish August 2011).

Norway, one of the primary suppliers of herring, have seen price increases for fillets of 130% and whole frozen 100% since the beginning of 2010. This is indicative of the supply situation over this period. However, it is anticipated that closing out 2012 there will be additional supply as catches have improved in the northeast Atlantic.

Export market destinations: NL has exported herring to 52 different countries in the past 10 years and 18 in 2011. This is indicative of changing market conditions, pack mix and returns. This is similar to what has occurred in Atlantic Canada where 50 of 90 countries serviced historically were export destinations in the most recent year.

The US remains the primary market for NL exporters comprising 56% of export value over the period reviewed. Collectively, EU countries comprised 14%, Japan 11% and other eastern European/Russia another 10%.

Exhibit 4.13: NL export destination importance



Source: Industry Canada, Trade data online

The attributes of these markets relative to Atlantic Canadian and NL exports are:

- **US** - Exports have remained static at ~\$25m annually. The primary products are smoked kippers and pickled or brine cured chunks/fillets which are destined for ethnic market in large city centres. Meal trade volumes have remained steady at ~25,000t in recent years.

NL maintains a \$25 export value to the US, participating at 20% of the export value from Atlantic Canada. On average 65% of the exports from NL to the US

comprise of pickled herring chunks with an average market value of \$3.3m per year. Until recently, only NL had been preparing and exporting this product in Atlantic Canada, and today maintains a 95% share. The remainder of exports are primarily whole frozen herring.

- **Japan** – Exports comprise almost exclusively herring roe, which in recent years have been ~2,500t with the remaining being frozen fillets.

NL exports average \$2m annually and include frozen fillets to Japan where NL maintains a dominant (90%) export position including Atlantic Canadian provinces. NL however, has little participation, less than 5%, in export of roe to the market for the period of review.

- **EU** – Exports fluctuated from ~\$5m-\$11m over the period reviewed with 80% of the export value going to Greece (51%), Germany (17%) and Italy (11%). The Greek market purchases comprise primarily (95%) smoked bloaters and fillets with the remainder being whole frozen herring. Germany received primarily (82%) frozen fillets along with whole frozen herring. Exports to Italy comprise almost exclusively smoked fillets and bloaters.

NL exports to 16 EU countries, has averaged \$1.2m of exports per year and holds a 13% export position of the Atlantic Canadian herring value to this market. Exports vary significantly year to year, indicating that exports to this market are done on an opportunistic basis. NL participates in whole and fillet exports, however, holds no export position on smoked products to this market.

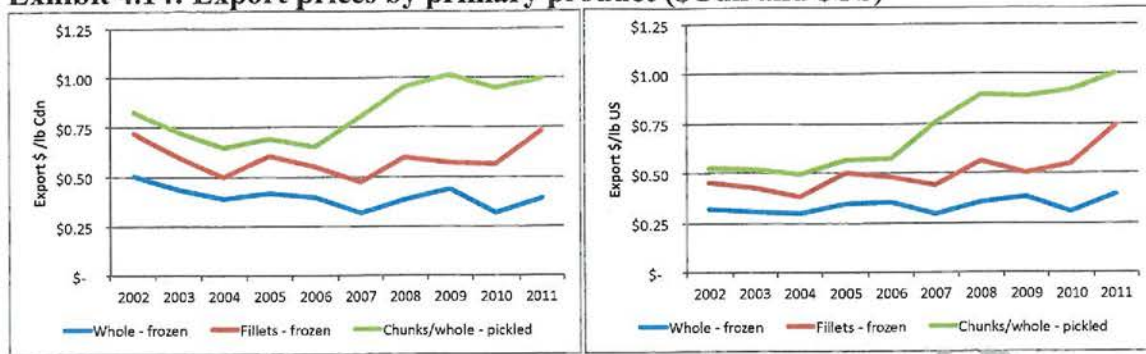
- **Eastern Europe** – This market includes eight countries, four of which comprise 92% of export value, including the Russian Federation (46%), Georgia (19%), Czech Republic (19%) and Bulgaria (11%). All these countries import almost exclusively whole frozen herring and frozen herring fillets.

NL average exports to this market are \$1.2m per year, which is a 75% export share of the Atlantic Canadian exports to these countries.

Export market price trends: The following exhibit illustrates the price trends of all primary value products exported from NL, representing 80% of export value. As indicated, prices of all products have increased; however, not in proportion. In US\$, which is the primary trade currency, the export prices over the past 10 years have:

- Increased 92% in the chunk/whole pickled category.
- Increased 62% in the frozen fillet category.
- Increased 23% in frozen whole category.

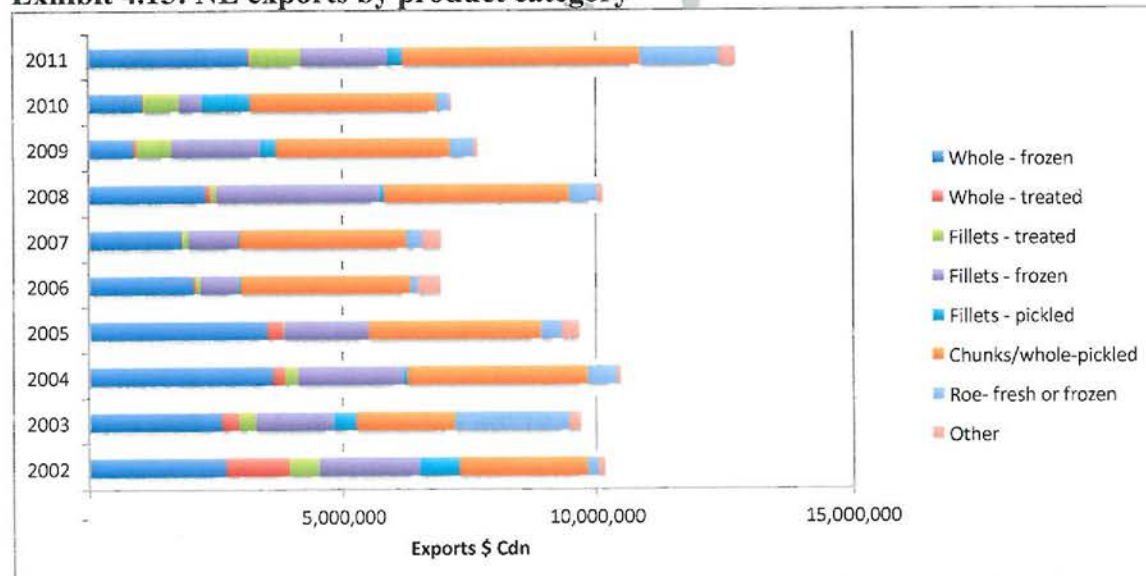
Exhibit 4.14: Export prices by primary product (SCdn and SUS)



Further examination of whole frozen herring prices into the US indicate that NL exporters have averaged 8% less than other Atlantic Canadian exporters over the period reviewed. In contrast, pickled chunks prices have remained very similar each year and averages were identical.

Given these relative price changes, with all else remaining equal, the pack mix by NL producers should have moved proportionally to the products with the higher price increases. As illustrated below this is the case for the chunk/whole pickled category only; frozen fillet exports have decreased and whole frozen has increased.

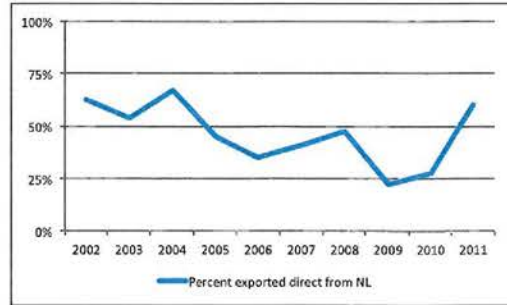
Exhibit 4.15: NL exports by product category



Source: Industry Canada, Trade data online

Contrast of production to international exports: Over the period reviewed only 44% of the reported produced volume has been exported, varying significantly each year.

Exhibit 4.16: Production exported



█ The fillet production variance, █, may be consumed in Canada. The whole production is either used as bait, consumed or reprocessed in Canada. It is also possible that producers in NL do not always export directly and some of this variance may be attributed to trans-shipping of finished product.

Fisheries Act - Section 4, Note: Contains Proprietary Information

Sales prices: Based upon information derived from export statistics and interviews with stakeholders the value of primary products in the past two years, delivered to first receivers, are reported to be:

- Fresh bait – \$0.30-\$0.40
- Frozen bait - \$0.40-\$0.60
- Salted round - \$0.35-\$0.45
- Frozen whole – \$0.40-\$0.60
- Pickled chunks and fillets – \$1.00
- Frozen fillets - \$0.75-\$0.80

5.0

ECONOMIC ASSESSMENT

Economic Indicators: The following economic assessment illustrates the combined outcomes of both the harvesting and processing sectors. Detailed income statements for and other economic indicators are provided in Appendix VI. There are three primary economic indicators used, including:

- **GDP:** This is the gross domestic product in NL and includes revenues less non-wage expenses and incorporated indirect and induced GDP benefits.
- **Employment Income:** The employment income including the crew income, unloading labour, direct labour and the estimated labour component for trucked in costs.
- **Employment Person Years (PY's):** This reflects the number of full-time equivalent jobs based on the employment income calculated. For the harvesting sector the incomes were based on target incomes of \$20,000 for the inshore sector and \$35,000 for the nearshore sector as per the Memorandum of Understanding results. For processing this number was derived from the calculated average wage rate, \$13.60 per hour, based on interview results and 1,750 hours per year for full-time equivalency.

Data Limitations: There are several data limitations that may have affected the outcome of this analysis. Adjustments were made to data where information gleaned warranted such changes. The data limitations identified include:

- **Shore prices** – There is no historical shore price information on herring landings in NL. DFO uses proxy data from slip samples, 10%, then apply the ‘perceived’ average of shore price to herring for the entire season. This precludes the ability to examine seasonal price trends, determine if prices are different outside of allowance periods or prices paid by area of landing relative to production centre’s or points of exit.
- **Fresh export prices** - There is limited information on fresh and frozen whole herring sales as 75% appear to be used within the country for either bait, food or feed purposes.

Interviews with stakeholders, bait traders, mainland producers and NL sellers supplemented export values and import values to define the sales price and shore price parameters used in economic analysis.

- **Fresh bait export anomalies** – The quantities of fresh bait exports reported varied significantly year to year. Upon discussions with harvesters, producers and buyers it was revealed that some round fresh sales were exported, possibly as

bait. Further, there were round salted fresh exports, reportedly destined for smokers, which were reported as round fresh bait and round fresh production.

- **Production reporting** – Based on discussions with stakeholders and review of point of exit audit results, reporting of fresh bait and salt herring exports have been erroneously reported as fresh herring sales. Adjustments were made unilaterally by reviewing monthly reporting results from all plants. These adjustments attempt to account for inter-plant transfers to value-added production plants.

5.1 Modeling Methodology

Base Case 2011: The most current full year of data available is 2011. The actual production mix and best source information for costs and values were utilized. Though interview results indicate demand and price for herring increased in 2012 there was not adequate information to quantify these statements.

Reconciliation of volume data and fresh exports were completed and resulted in several adjustments to the base case and subsequent sensitivities. The adjustments and the rationale for them are discussed.

- **Production:** Using various sources of information the production outputs reported for 2011 were converted to whole weight equivalents and compared to landings. The variance, ~20%, of actual landings over calculated reported landings from production were applied equally to all packs based on actual pack mix reported.
- **Landings:** The landings by gear sector and overall landings varied minimally, 368t, and this quantity was reduced in the model from the >65' seiner fleet.

Sensitivities: Several sensitivities were completed to reflect changes in shore prices, landed volumes and product mix. Analysis of these sensitivities were completed in order to determine the 'cause and effect' of taking the following actions:

- **Status quo:** If nothing in policy or regulations change it is anticipated that no change in fishing, buying or production activities would change. There are outside factors such as supply and demand which may result in change, as is believed to be the case with increased demand in 2012.

Outcome: Economic activity would remain similar to 2011.

- **Eliminate fresh exports:** This change, based on interview results, could have three impacts. Many harvesters believe that they would not have active buyers, particularly in the spring, if the fresh export allowance was eliminated. Further, harvesters also believe there may be a negative price impact. One certainty is that the production output would change.

Outcome: Economic activity would be lower as volumes would decline and prices may decline.

- **Encourage more exports:** One method of encouraging more exports is to acknowledge that herring is being light salted and exported for smoking and permitting these exports to continue. The other is the permit exports for longer periods of time during the season, which either reflects the exemptions currently granted or perhaps having no limitation on the export allowance period.

Outcome: Economic activity would increase as landings would go up and prices may increase by encouraging more outside buyer activity.

Source Data: The source data for each component of the economic assessment was derived from the following:

Processing

- Shore prices – Based on slip sample data from DFO for 2011.
- Collection costs – As per producer estimates, \$0.01 direct \$0.03 contract for unloading. Transport in costs to be 60% delivered to plant and 40% at \$500/45,000 pound load, 60% labour content.
- Processing costs – As per Productivity Handbook modified to average wage rate as per interviews.
- Labour content – as per Productivity Handbook x pack mix / average labour rate to determine labour hours per pound of production.
- Yield – as per productivity manual, DFA conversion factors, DFO conversion factors and Tory Research notes, averaged over all current products.
- Overhead costs – as defined in the MOU analysis plus additional costs for freezing as identified during the interviews.
- Sales prices – Net sales price (less average transport to market destination for each product category) received by plant based on best source available.

Harvesting: The harvesting sector was summarized by fleet sector based on harvest information provided by DFO. Further information was gleaned from:

- Crewing – as per MOU and input from the FFAW.
- Crew income – MOU estimated 40% of gross stock for inshore and 30% for >65' seiners.

- Operating costs – as per MOU pelagic estimates.

5.2 Analysis Results

The scope of change since the export allowance was permitted must be understood prior to correctly determining the possible effect of these changes. The changes and contributing factors over time have been:

- The average estimated exports of fresh herring, included misreported production, is 2,541t and in 2011 is 2,202t, which comprises ~10% of landings.
- Landings in the period since 2006 have increased 19%.
- Landings of herring in Atlantic Canada have decreased 25% over the period of review.
- Landings in the spring, April through June, have increased 18% which is proportional with the overall increase in landings.
- Shore prices in NL, based on anecdotal information, have increased 50%, from \$0.08 in 2006 to \$0.12 in 2011.
- Shore prices in other provinces have increased 11% from 2006 until 2012, however, prices in NL are now aligned with those in other provinces.
- Export prices have increased significantly in all product categories since 2006.

The conclusions that can be drawn from these changes include:

- The degree of increase in landings is not due exclusively to fresh exports as they comprise less than half of the increase.
- Prices to harvesters have increased due both supply shortages and fresh exports.
- Landed volumes have increased due to both supply shortages and fresh exports.
- Prices would not have increased to the degree they have without fresh exports.
- Value added production has not increased in proportion with landings due to fresh exports, which has limited GDP returns and employment.

The analysis below illustrates the changes to the economic indicators based on three scenarios of status quo, eliminating fresh exports and encouraging more fresh exports. The impact of eliminating exports is estimated to be a price reduction of \$0.02 due to not being able to take advantage of current demand for fresh and landings decreasing 10% due to a combination of this lower price and decreased demand. This landings decrease is proportional with 10% on average which has been exported fresh. Encouraging fresh exports is anticipated to have exactly the opposite effect, further increasing prices and landings.

Exhibit 5.1: GDP

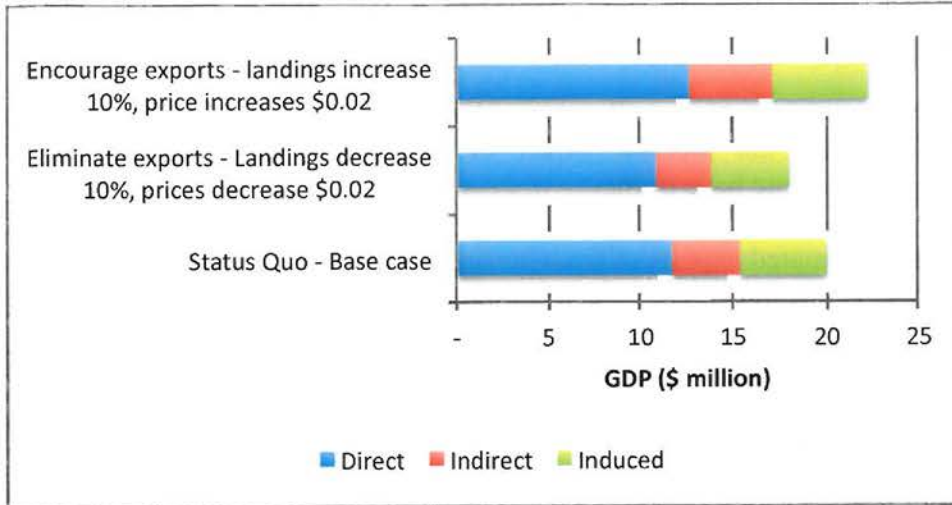


Exhibit 5.2: Employment income

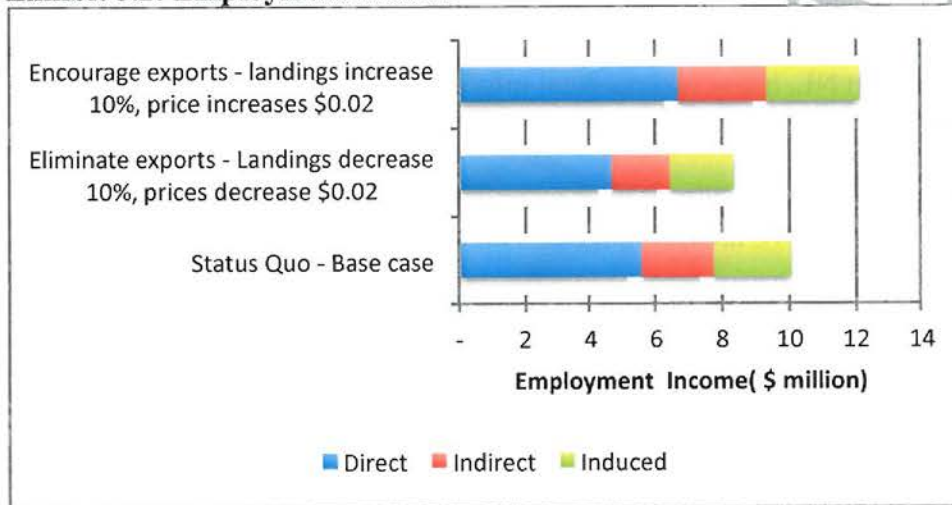
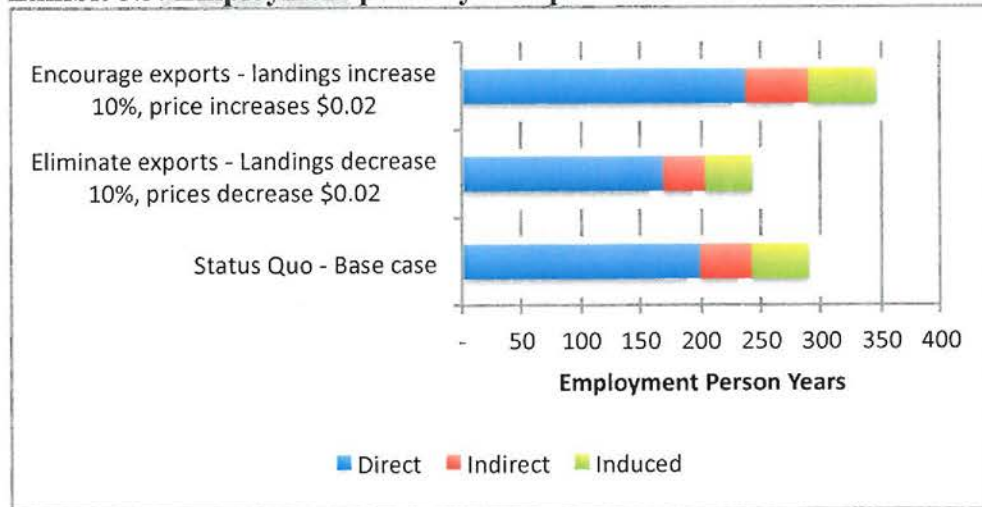


Exhibit 5.3: Employment person year equivalent



Price and volume sensitivities: The following two exhibits illustrate the impact to GDP for every \$0.01 change in shore price and every 5% change in landings, and indicate:

- GDP changes \$0.11m for every \$0.01 change in shore price.
- GDP changes \$1.0m for every 5% change in landings.

Exhibit 5.4: Price change impact on GDP (\$ millions)

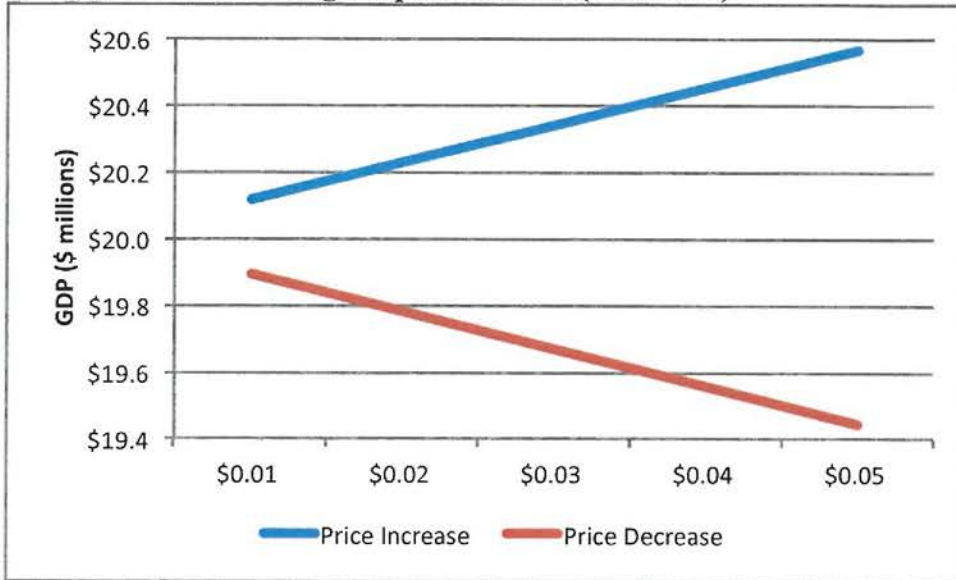
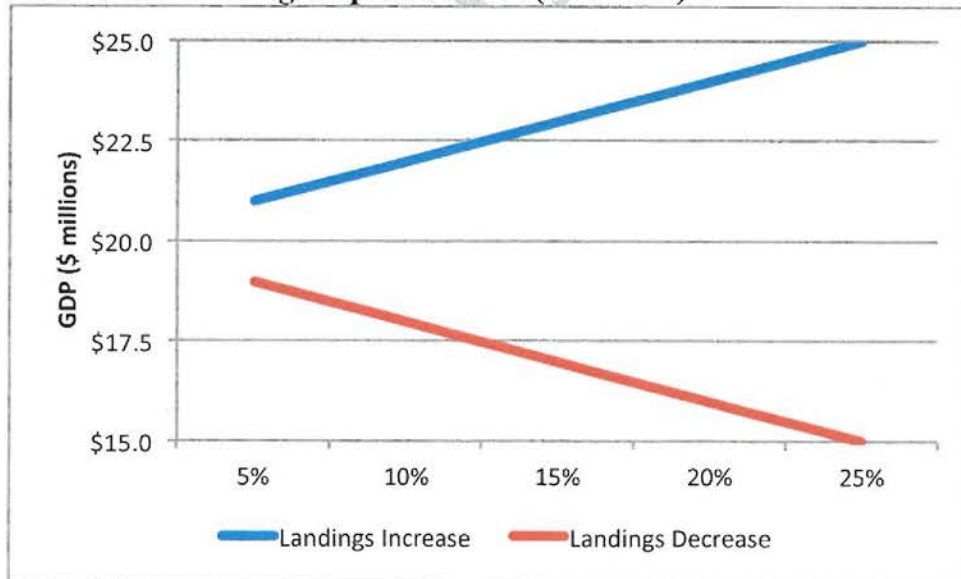


Exhibit 5.5: Landings impact on GDP (\$ millions)



APPENDIX I MPR NOTIFICATIONS

2007/08 – 11

LICENSING CONDITION AND DIRECTIVE

To: All Licensed Pelagics Processors


From: Department of Fisheries and Aquaculture
Government of Newfoundland and Labrador

Date: May 14, 2007

Subject: Herring Pilot Project

Take Notice That pursuant to Section 32(2) of the Fish Inspection Regulations CNR 1141-96 (as amended) made under Section 5(2) of the *Fish Inspection Act* RSNL 1990 c.F-12, all fish processing license holders authorized to process the species "pelagics" are advised that in the absence of further Licensing Conditions and Directives by me the following requirements will apply to the conduct of a pilot project for the bulk shipment of herring from Newfoundland and Labrador:

- The pilot project will be conducted only during the period May 15 to June 15, 2007 and November 15 to December 15, 2007.
- During the period of the pilot project, all licensed pelagics processors resident in Newfoundland and Labrador will be authorized to ship herring in bulk form from the province for the purpose of supplying the lobster bait market in Atlantic Canada. During this period, whole packaged herring, clearly labeled "**For Bait Only**" is an Authorized Processing Treatment. Packaging may include barrels and large vats, and other conveyances which meet market requirements. Each package (conveyance) must be appropriately labeled.
- Given the nature of the herring fishery and the end use of the fish in question, processors will not be required to transport the herring to their plant prior to marketing, but must conform with all other requirements of the Fish Inspection Act, regulations and any license conditions and directives issued by me having application – for example, without limitation, with respect to proper handling, drippage containment, etc.
- Each processor must ensure that the amount of herring shipped under this directive is recorded appropriately on their monthly reporting forms, under the category "herring – bait, fresh".
- Failure to conform with the requirements of this directive shall constitute a breach of a term of licence.


Thomas G. Rideout, M.H.A.
Lewisporte District
Minister

MEMORANDUM

TO: All Licensed Pelagics Processors
FROM: David Lewis – ADM Fisheries Branch
DATE: April 22, 2008
RE: **Herring Pilot Project**

As you are aware, commencing in the fall of 2006, the Department has been authorizing the export of herring in bulk form on a seasonal basis to take advantage of certain market opportunities, notably the market for fresh lobster bait in the Maritimes.

During 2007, this project extended through the May 15th to June 15th, and November 15th to December 15th periods. Production reports suggest that processors were able to avail of the opportunity, shipping some 1500 tonnes. We understand this also resulted in improved returns to harvesters and processors.

Several processors have pointed out that last year's project, while beneficial, did not enable shipments through the peak periods of lobster fishing in the Maritimes, particularly in the Spring. Therefore the pilot project time frames have been adjusted. The attached Licensing Condition and Directive provides details. The Department will be reviewing volumes, employment and price impacts from the Spring fishery, which may lead to further revisions to the Fall project, including the possibility of providing access by buyers from outside the province.

If you have any questions concerning this Licensing Condition and Directive, please contact Ian Burford, Director of Licensing and Quality Assurance, at 729-3736 or by email at lburford@gov.nl.ca.



David Lewis
ADM - Fisheries

Attached

BC-35356

Licensing Condition and Directive 2008/09-1

To: All Pelagic Processors
Licensed under the Fish Inspection Act, RSNL 1990, c.F-12

From: Department of Fisheries and Aquaculture
Government of Newfoundland and Labrador

Subject: Minimum Processing Requirements for Herring

TAKE NOTICE THAT in accordance with Section 5 (2) of the *Fish Inspection Administrative Regulations* made under Section 5 (2) of the *Fish Inspection Act*, RSNL 1990 c.F-12, all fish processing license holders authorized to process the species "pelagics" may export shipments of herring from the Province of Newfoundland and Labrador subject to the following conditions, namely:

- i) All shipments will be conducted only during the period April 22, 2008 to June 14, 2008 and November 1, 2008 to December 31, 2008;
- ii) During this period, herring may be whole packaged and clearly labeled "For Bait Only". Packaging may include barrels, large vats or any other carton or container which meets market requirements. Each carton or container must be properly labeled;
- iii) Given the nature of the herring fishery and the intended sale of the fish in question, processors will not be required to transport the herring to their plant prior to being exported, but must comply with all other requirements of the *Fish Inspection Act* and its accompanying regulations with respect to proper handling, drippage containment, etc; and
- iv) Each processor must record the amount of herring shipped under this directive on the appropriate reporting form, under the category "herring bait fresh."

- v) Any product exported from the province pursuant to this Licensing Condition and Directive will be considered to be exempted from the minimum processing requirements set out in the Schedule as identified in Section 15 of the Fish Inspection Operations Regulations

Dated this 22nd day of April, 2008.


Thomas G. Rideout, MHA
Baie Verte-Springdale District
Minister

Legislation

Departmental legislation, as per the [Fish Inspection Act](#) and regulations, that may apply to shipments of whole fresh herring in bulk are as follows:

Issue of licences

- 5. (1) The minister may refuse to issue a licence required under this Act or the regulations without assigning a reason for the refusal.
- 5. (2) The minister may issue licences under this Act subject to the conditions that the minister considers to be appropriate, including conditions which relate to a matter set out in section 4.
- 5. (3) Where a processor has been convicted of engaging in an anti-competitive act as defined in section 78 of the Competition Act (Canada), the minister may suspend or cancel that processor's licence.
- 5. (4) The minister may, in the circumstances prescribed in the regulations, issue a special permit for the transportation of fish or marine plants.
- 5. (5) Where the minister has reasonable grounds to believe that a person has not, within a reasonable time, complied with a request of the minister to cease the violating activity, the minister may issue a stop work order and that activity shall cease.

Powers of inspectors

- 6. (1) Where it is reasonably necessary for the purpose of ensuring compliance with this Act and the regulations, an inspector, officer or other person designated by the minister may, at a reasonable time and without a warrant
 - (a) enter an establishment, fish landing station or a vehicle used for the carriage or storage of fish or marine plants and may open a container or carton which he or she believes contains fish or marine plants;
 - (b) require to be produced for inspection or for the purpose of obtaining copies or extracts from books, shipping bills, bills of lading or other documents or papers relating to the quality, landing, buying, processing, transportation or marketing of fish or marine plants;
 - (c) remove books, shipping bills, bills of lading or other documents or papers or extracts of them referred to in paragraph (b) for the purpose of making copies or otherwise reproducing them; and
 - (d) take, without charge, the minimum sample of fish or marine plants required

for inspection.

(1.1) Where an inspector, officer or other person designated by the minister removes books, shipping bills, bills of lading or other documents or papers under the authority of paragraph (1)(c), he or she shall give to the person from whom those items were taken a receipt for them and shall immediately make copies or otherwise reproduce them and return the originals to the person who was given the receipt.

- 6. (2) An inspector, officer, or other person acting under subsection (1) may detain a vehicle for the purpose of performing the inspection or obtaining the sample referred to in that subsection.
- 6. (3) A sample taken under subsection (1) shall be disposed of as the minister directs.

False labelling, marketing or packaging

- 10. A person shall not mark, label or package fish or marine plants or containers or cartons of them in a manner that is false, misleading or deceptive.

Ticketing

- 11.1 An inspector may commence proceedings, which may be in the form of a ticket issued in accordance with the *Provincial Offences Act* and regulations in respect of a violation of this Act or the regulations.

Prohibition against processing or marketing

- 13. (1) A person shall not process or market fish or marine plants intended for human consumption if the fish or marine plants are tainted, decomposed or unwholesome.
- 13. (2) A person who violates subsection (1) is guilty of an offence and is liable on summary conviction
 - (a) for a first offence, to a fine of not less than \$5,000 and not more than \$20,000 or to imprisonment for a term of not less than one month or more than 6 months, or to both a fine and imprisonment;
 - (b) for a second offence, to a fine of not less than \$20,000 and not more than \$50,000 or to imprisonment for a term of not less than 2 months or more than 6 months, or to both a fine and imprisonment; and
 - (c) for a third offence, to a fine of not less than \$50,000 and not more than \$100,000 or to imprisonment for a term of not less than 3 months or more than 6 months, or to both a fine and imprisonment.

The applicable *Fish Inspection Administrative Regulations* are cited:

Licence required

- 3. (1) Except as otherwise provided in section 4, a person shall not engage in, or engage in a specific aspect of, handling, storing, grading, marketing, transporting or operating a vehicle for transporting fish except under the authorization of a fish buyer's licence or a fish processing licence issued by the minister.
- (3) Except as otherwise provided in section 4 a person shall not engage in, or engage in a specific aspect of, processing except under authorization of a fish processing licence issued by the minister.

Fish Inspection Operations Regulations :

Duties of fish processor

- 15. (1) The holder of a fish processing licence shall comply with
 - (a) the minimum processing requirements applicable to an authorized species as set out in the Schedule or other alternative minimum processing requirements approved in writing in advance by the minister except where the minister has issued an exemption in writing; and
 - (b) reporting requirements, including production records, established by the minister in the form and manner and at the frequency prescribed by the minister.
- 15. (2) For purposes of paragraph (1)(a), "authorized species" means a species that is authorized to be processed by the conditions, including any supplemental conditions, of the fish processing licence.
- 15. (3) A production record referred to in paragraph (1)(b) shall be retained by the holder of a fish processing licence for a period of not less than 5 years.

Marking of cartons and labels

- 16. (1) A carton of fish for sale or label of a carton shall be correctly and legibly marked to indicate
 - (a) the common name of the fish or fish product;
 - (b) the weight, volume or count of declared contents in accordance with the Fish Inspection Regulations (Canada), another Act or an Act of the Parliament of Canada;
 - (c) the name of the processor;
 - (d) the ingredients in each container, where there is more than one ingredient in it, either
 - (i) by listing them in descending order of their proportion in the container, or

- (ii) by stating the proportion of each ingredient in the container;
 - (e) the establishment in which the carton was packed;
 - (f) the day, month and year of packing; and
- 16. (2) The information required to be marked on a carton or label of a carton under subsection (1) shall be shown in a manner so that
- (a) the common name of the fish and the stated weight of the fish appear on the main body or face of the container or on the main panel of the label;
 - (b) the common name of the fish is in letters of equal height and prominence; and
 - (c) the required information indicates whether the product has been prepared
 - (i) by mincing, flaking or other special process,
 - (ii) from selected parts of fish, or
 - (iii) for dietetic use.

Marking of master cartons

- 17. Except as otherwise provided in these regulations, a master carton for packaged fish shall be legibly marked in a manner so that the common name of the fish or fish product, the name of the processing establishment and the day, month and year of packaging can be determined by an inspector.

Restrictions on marketing

- 18. A person shall only market fish that
- (a) is not tainted, decomposed or unwholesome;
 - (b) has been washed or cleaned with an approved source of water;
 - (c) is free from foreign material;
 - (f) complies with any additional requirements specified in these regulations.

Standards for storage and transportation

- 23. Where unprocessed fish intended for processing is stored, held, or transported within the province,
- (a) the fish shall be bled and gutted, where appropriate, and washed with an approved source of water to remove excess blood, slime and viscera prior to stowage;
 - (b) a vehicle used to transport fish shall employ a system of containment, including insulated containers, vehicle bodies, boxes, tubs and barrels, tanks and other form of conveyance acceptable to the minister, that is constructed and modified so as to prohibit the discharge of fluid and effluent associated with the holding, storage and transport of fish;
 - (c) the conveyance referred to in paragraph (b) shall provide protection against contamination and where applicable shall be secured with tight fitting covers using strapping or fasteners;

- (d) the fish and fish products shall be confined in a container or receptacle to prevent damage or its release; and
- (e) the conveyance and the system of containment referred to in paragraph (b) shall be cleaned before each trip and disinfected in the manner and frequency determined by an inspector.

Storage before processing

- 24. (1) Where unprocessed fish intended for processing is
 - (a) on board a vehicle;
 - (b) being transported; or
 - (c) being held
 - (i) in a holding area or chill room, or
 - (ii) preparatory to entering the production linethe fish shall be
 - (d) protected from physical damage, contamination and weather at all times;
 - (e) stowed in a container so that the depth of fish and ice does not exceed 90 centimetres but in any event so that the minimum distance between the fish and ice and the top of the container is 4 centimetres;
 - (f) in the case of fish other than shrimp, iced or chilled in a manner so as to maintain the temperature of the fish below 4 ° ;
- (3) Paragraph (1)(e) does not apply to stowage in a refrigerated seawater or slush ice holding tank or a container for the bulk stowage of pelagics.

Handling of fish

- 25. (2) A person may use a vacuum pump that
 - (a) is constructed in a manner so that the surface of all components coming into contact with fish is smooth and made of non-corrodible material other than wood; and
 - (b) operates at a discharge rate that does not damage fish.
- 25. (3) A vacuum pump shall be cleaned and disinfected before each use and before transport.

APPENDIX III PRODUCER INTERVIEW

Background – Pisces is conducting a review of the herring MPR's, specifically looking at the pros and cons of fresh herring exports. There is allowances to permit fresh herring exports in bulk for bait to the mainland during the periods May 1- Jun 15 and Nov 1-Dec 31.

I wish to obtain your views and benchmark some information for determination of GDP for the province.

Views

1. Do you buy herring during the ___ Spring ___ Fall?

2. Have you availed of the MPR of fresh bait exports for herring? Y N

If YES, in what seasons? ___ Spring ___ Fall

If NO, why not?

3. Do you support continuing exporting of whole round herring for bait? Y N, why? ___

If YES, are the seasonal limits (May 1- Jun 15 and Nov 1-Dec 31) appropriate? Y N

If NO, what should the season(s) be? _____

If NO, would you support a seasonal allowance for exports of fresh whole herring? Y N

For what dates? _____

4. Are there changes to the MPR for herring that should be implemented that would permit you to maximize benefits to your firm?

Y N

What should they be? _____

5. If fresh exports were not permitted would you still purchase the same quantity of herring if available? Y N

If YES, what would it be packed into? _____

If NO, how much less herring would you purchase? _____ MT

6. Do you think that allowing fresh exports has increased participation by harvesters? Y N Shore price to harvesters? Y N

7. Generally has allowing fresh exports affected your company positively or negatively? _____ Positive _____ Negative. How? _____

8. Are shore prices different during allowance periods? Y N
If YES, has this affected your production of other products? Y N, How? _____

Benchmarking (for GDP calculations)

1. Labour rates (all in) \$ _____
2. Direct labour costs for production: Whole frozen \$0. _____, Guttled frozen \$0. _____, 100 kg barreled \$0. _____, fillets \$0. _____
3. Yields: Whole frozen _____, Guttled frozen _____, 100 kg barreled _____, fillets (frozen) _____
4. Unloading cost per ton. \$ _____
5. Trucking cost in province and out of province \$0. _____ IN \$0. _____ OUT

APPENDIX IV HARVESTER INTERVIEW

Background – Pisces is conducting a review of the herring MPR's, specifically looking at the pros and cons of fresh herring exports. There is allowances to permit fresh herring exports in bulk for bait to the mainland during the periods May 1- Jun 15 and Nov 1-Dec 31.

Profile

1. Boat length _____ ft
2. Gear type _____
3. Area fished _____
4. Seasons ____ Spring ____ Fall
5. How much herring do you land each season _____ mt Spring _____ mt Fall

Views

1. Did you fish herring prior to 2006 when fresh whole herring exports were permitted?

Y N

2. Have you sold herring for fresh bait exports since 2006? Y N ___ Don't Know

If YES, in what seasons? ____ Spring ____ Fall, have you sold every year? Y N

If NO, why not?

3. What prices did you get for your herring last year \$0. _____ Spring \$0. _____ Fall

Do you know what prices you have received in the past number of years? _____

Do you see a price difference outside of the fresh export allowance periods? Y N

If YES, what is the difference? _____

4. Do you believe prices have increased due to fresh exports? Y N

If YES, how have you seen prices change? _____

If NO, why do think it has not had an impact on prices? _____

5. Do you support continuing exporting of whole round herring for bait? Y N, why?

If YES, are the seasonal limits (May 1- Jun 15 and Nov 1-Dec 31) appropriate? Y N

If NO, what should the season(s) be? _____

If NO, do you support a seasonal allowance for exports of fresh whole herring?
Y N

If YES, For what dates? _____

Comments _____

6. Are there changes to the MPR for herring that should be implemented that would permit you to maximize benefits to your fishing enterprise? Y N

If YES, What should they be? _____

If YES, How would changes benefit you? _____

7. If fresh exports were not permitted would you still find buyers for the same quantity of herring you currently land? Y N

If NO, how much less herring would you be able to sell? _____ MT

8. Do you think that the fresh exports allowances has increased participation by harvesters? Y N Shore price to harvesters? Y N

-
-
9. Generally has allowing fresh exports affected you positively or negatively?
___ Positive ___ Negative. How? _____

FINAL DRAFT

APPENDIX V

CONTACTS

Processing Stakeholders

ATIPPA Section 30 (1)

Company	Contact	Phone
3T's Limited	Todd Young	[REDACTED]
Association of Seafood Producers (ASP)	Derek Butler	
Allen's Fisheries Limited	Richard Allen	
Barry Group Inc.	Karl Sullivan	
Golden Shell Fisheries Ltd.	Rodney Butt	
Harbour Breton Retail Trade Limited	Jimmy Cox	
Harbour Seafoods	Russo Payne	
Northern Lights Seafood Inc.	Andy Schnare	
Seafood Producers of Newfoundland and Labrador (SPONL)	George Joyce	

Harvesting stakeholders

ATIPPA Section 30 (1)

Contact	Area	Gear Fished	Phone
George Feltham	Bonavista & Trinity Bay	Tuck & Gillnet	[REDACTED]
Carl Hedderson	Labrador Straits North	Tuck seine	
Allan Sheppard	4R	Tuck seine	
Kelvin Letto	4R HFA 14	Trap	
Al McCarthy	4R	Purse seine	
Andrew Daley	No response		
Glen Simpson	3Ps HFA 11	Bar seine and trap	
David Decker		FFAW representative	
Bill Broderick		FFAW representative	
Monty Waye		FFAW representative	
Mildred Skinner	Fortune Bay	FFAW representative	

Other Contacts

Contact	Role	Discussion
Frank Corbett	NL Economics Branch	Landings, values, fishing activity, licensing
Ken Hicks	NL Department of Finance	Econometric modeling
Anonymous	NB lobster producer	Bait preference
Christian Brun	MFU Gulf Region	Bait preference and quantities
Anonymous	NS crab and lobster buyer	Bait preference and quantities
Anonymous	NS crab and lobster producer	Shipping costs, bait prices, bait preference
Anonymous	Bait trader NB	Bait pricing

APPENDIX VI

ECONOMIC INDICATORS

Harvesting Model – The following details the harvesting model variables, costs per pound and total costs using the ‘Base Case’ that is the estimated results for 2011.

FINAL DRAFT

Harvesting Model Variables					
Category	Notes			Source	
Harvester Benefit Multiplier	1.07			Per Finance	
Income target per year - Inshore FG	20,000			MOU	
Income target per year - Purse Seiners	35,000			MOU	
Indirect GDP Multiplier	0.2			Per Finance	
PY Equivalent fishing days	200			Per Finance	
Induced Multiplier	0.3			Per Finance	
Indirect Labour Income Multiplier	0.1			Per Finance	
Indirect PY Employment per \$m Operating cost	2.1 Including harvester income				
Induced Average Labour Income in 2011	\$49,065.77	Per Finance			
Shore price	\$0.12	Base case is \$0.12 from DFO sample for 2011			
Landings	24,872	MT total actual 2011 of		24872	
Direct Expenses	<65'	>65'			
Crew	40.0%	30.0%	% revenues	from MOU	
Fuel and lubes	3.0%	3.0%	Sea days & FR	from MOU	
Bait/ice	0.0%	0.0%	\$ per landed pound	from MOU	
Fees (license etc.)	2.6%	2.6%	% revenues	from MOU	
Other (variable part of R&M)	6.9%	6.9%	50% fixed/days sea	from MOU	
Total Direct Expenses	52.4%	42.4%			
Overhead Expenses					
R&M	1.3%	1.3%	Fixed per enterprise	from MOU	
Nets and gear	2.7%	2.7%	Fixed per enterprise	from MOU	
Insurance	1.0%	1.0%	Fixed per enterprise	from MOU	
Annuity	21.8%	21.8%	20 and 40 year	from MOU	
Other	5.7%	5.7%	Fixed per enterprise	from MOU	
Total Overhead Expenses	32.5%	32.5%			
Grand Total Expenses	85.0%	75.0%			
EBT - ROI	15.0%	25.0%			

Harvesting Model – Total costs and contribution

	Fleet sector				Total
	Bar/Gill/Trap	Tuck Seine	Purse Seine <65	Purse Seine >65	
Landings (MT)	5,035	2,393	6,651	10,792	24,872
\$ per pound	\$0.12	\$0.12	\$0.12	\$0.12	
Revenues	1,332,169	633,148	1,759,630	2,855,088	6,580,036
Direct Expenses					
Crew wages	532,868	253,259	703,852	856,526.38	2,346,506
Fuel and lubes	39,817	18,924	52,593	85,335	196,670
Bait/ice	-	-	-	-	-
Fees (license etc.)	34,502	16,398	45,572	73,943	170,415
Other	91,498	43,487	120,857	196,097	451,938
Total Direct Expenses	698,684	332,068	922,875	1,211,902	3,165,529
Gross Margin	633,485	301,080	836,755	1,643,186	3,414,507
Overhead Expenses					
R&M	16,689	7,932	22,044	35,768	82,433
Nets and gear	36,250	17,229	47,881	77,690	179,049
Insurance	13,758	6,539	18,173	29,487	67,957
Annuity	290,133	137,893	383,229	621,809	1,433,064
Other	76,341	36,283	100,837	163,613	377,075
Total Overhead Expenses	433,171	205,876	572,165	928,367	2,139,579
Total Expenses	1,131,855	537,943	1,495,040	2,140,268	5,305,107
EBT	200,314	95,205	264,590	714,820	1,274,928

Production Model – The following details the production model variables, costs per pound and total costs using the ‘Base Case’ that is the estimated results for 2011.

Production Model Variables		
Category	Base Case	Notes
MT Landed	24,872	Conclusion is not all plants reported
MT Calculated	20,429	Bump up production qties to match landings
Raw Material Price	0.12	Actual 2011 is \$0.12
Trucking labour % of cost	60%	
Labour Rate	\$ 13.60	
Labour % of Manufacturing Overheads	21.67%	Per MOU Pelagics
Labour % of Fixed	31.16%	Per MOU Pelagics
Depreciation % of Fixed	31.65%	Per MOU Pelagics
GDP Multiplier	0.3	Per Finance
PY Equivalent hours	1750	Per Finance
Induced Multiplier	0.3	Per Finance
Indirect Labour Income Multiplier	0.18	Per Finance
Indirect PY Employment per \$m Operating cost	3.5	Per Finance
Induced Average Labour Income in 2011	\$49,065.77	Per Finance

Production Model – Costs per pound and raw material adjustments

Fisheries Act - Section 4, Note: Contains Proprietary Information

	Bait Fresh	Round Fresh	Bait Frozen	Round Frozen	HOG Frozen	Fillets	Barreled	Other	Total																								
RM Actual Redistributed									54,833,632																								
RM Weight Equivalent (Reported)									45,031,419																								
Pounds Produced (Reported)									29,611,729																								
Pounds Produced (Adjusted)									36,057,461																								
Pack Mix % RM Actual									100%																								
Gross Selling Price																																	
Shipping in NL																																	
Shipping ex NL																																	
<u>Net Selling Price</u>																																	
Raw Material Cost																																	
Benefits paid for harvesters																																	
Unloading Labour																																	
Trucking in																																	
<u>Raw Material Cost Plant</u>																																	
Yield																																	
Direct Costs (\$/fin lb)																																	
Raw Material																																	
Labour																																	
Packaging/Salt																																	
Manufacturing OH																																	
<u>Total Direct Cost</u>																																	
<u>Fixed Overheads</u>																																	
<u>Total Cost</u>																																	
<u>Net Margin</u>																																	
Net Margin %																																	
Net Margin per whole pound																																	

FINN

Production Model – Total costs and contribution

	Bait Fresh	Round Fresh	Bait Frozen	Round Frozen	HOG Frozen	Fillets	Barreled	Other	Total
Gross Selling Price									19,205,129
Shipping in NL									480,766
Shipping ex NL									1,361,474
Net Selling Price									17,362,889
Raw Material Cost									6,580,036
Benefits									460,603
Unloading Labour	548,336								
Trucking in	243,705								
Raw Material Cost Plant									7,832,680
Yield									0%
Direct Costs (\$/fin lb)									
Raw Material									7,832,680
Labour									1,127,969
Packaging/Salt									2,112,803
Manufacturing OH									1,872,302
Total Direct Cost									12,945,753
Fixed Overheads									1,676,672
Total Cost									14,622,425
Net Margin									2,740,464

FINAL

Production Model – Economic indicators by pack using 2011 pack mix

Total Economic Indicator	Bait Fresh	Round Fresh	Bait Frozen	Round Frozen	HOG Frozen	Fillets	Barreled	Other	Total
GDP \$									12,251,285
Employment Income \$									6,229,688
Employment (person years)									184.6
Economic Indicator Per Whole MT									
GDP \$									493
Employment Income \$									250
Employment (person years)									0.007
Other Indicators									
Net Margin/\$ Whole MT									
Net Margin (% Sales)									

FINAL DRAFT

FINAL DRAFT

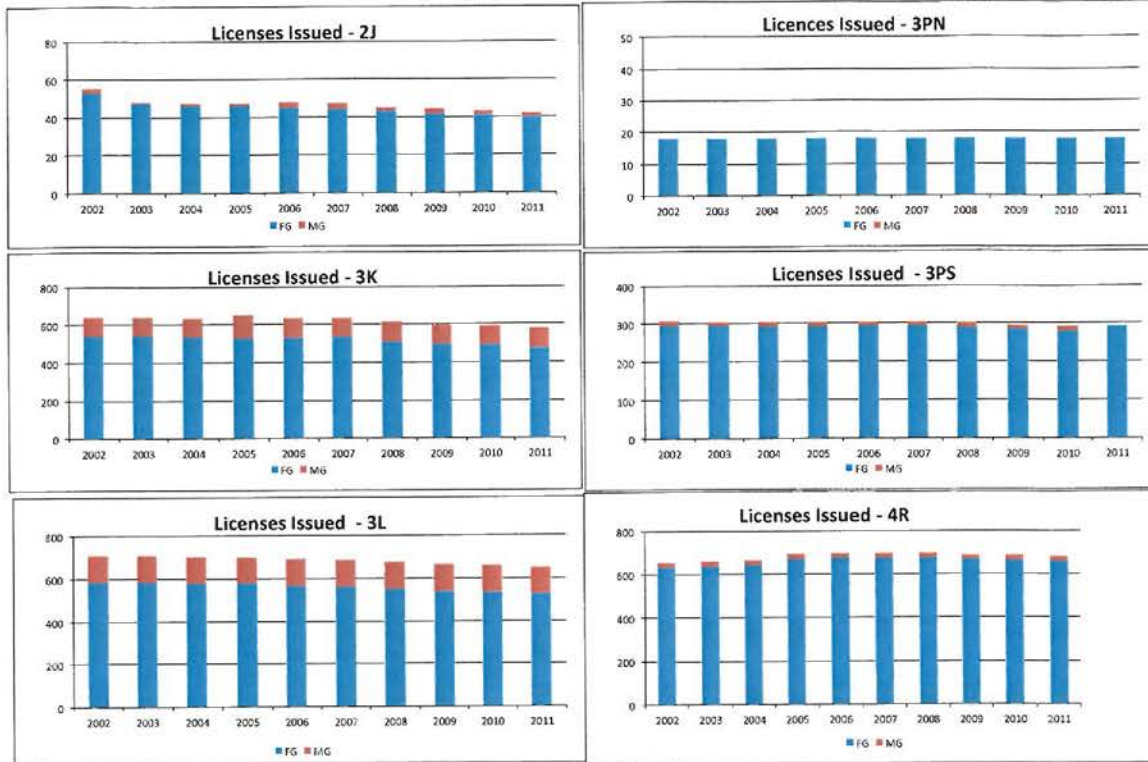
APPENDIX VI

EXEMPTIONS

Company	Year	Exemption Period	Exemption Details
Harbour Seafoods Limited	2006	November 2006 - December 2006	Company is authorized to produce whole, salted herring in a carton which will not exceed the current 110 kg weight restriction at the Rocky Harbour Location. Not to exceed 1,200 tonnes
Harbour Seafoods Limited	2006	November 2006 - December 2006	Total Weight not to exceed 350 tonnes
All Licensed Pelagics Processors	2007	May 15 to June 15 and November 15 - December 15	Exempted from the processing requirements for herring contained in the schedule and the company is permitted to produce fresh herring - for bait only
All Licensed Pelagics Processors	2008	May 15 to June 15 and November 15 - December 15	Pilot project will be conducted only during the period May 15 to June 15 and November 15 - December 15 - for Bait only.
Furlong Brothers Ltd.	2008	October 15 - October 31	Exempted from the processing requirements for herring contained in the schedule and the company is permitted to produce approximately 400,000 lbs of fresh herring - for bait only.
Golden Shell Fisheries Ltd.	2008	October 15 - October 31	Exempted from the processing requirements for herring contained in the schedule and the company is permitted to produce approximately 3 million lbs of fresh herring
Main Brook Fisheries Supreme Co. Ltd	2008	October 7 - October 31	Exempted from the processing requirements for herring contained in the schedule and the company is permitted to produce approximately 200,000 lbs of fresh herring
Change Islands Fishermen's Improvement Committee Inc.	2008	October 3 - October 31	Exempted from the processing requirements for herring contained in the schedule and the company is permitted to produce fresh herring - for bait only
Golden Shell Fisheries Ltd.	2008	August 13 - September 30	Exempted from the processing requirements for herring contained in the schedule and the company is permitted to produce approximately 3 million lbs of fresh herring
Allens Fisheries Ltd.	2008	October 8 - October 31	Exempted from the processing requirements for herring contained in the schedule and the company is permitted to produce approximately 1 million lbs of fresh herring - for bait only
Harbour Seafoods Limited	2008	September 5 - October 31	Exempted from the processing requirements for herring contained in the schedule and the company is permitted to produce approximately 2 million lbs of fresh herring - for bait only
Breakwater Fisheries Ltd.	2008	October 23 - October 31	Exempted from the processing requirements for herring contained in the schedule and the company is permitted to produce approximately 500,000 lbs of fresh herring - for bait only
All Licensed Pelagics Processors	2009	April 24 - June 12	Exempted from the processing requirements for herring contained in the schedule and the company is permitted to produce fresh herring - for bait only
All Licensed Pelagics Processors	2010	April 24 - June 12	Exempted from the processing requirements for herring contained in the schedule and the company is permitted to produce fresh herring - for bait only
Avalon Ocean Products Inc.	2010	April 15-April 30	Exempted from the processing requirements for herring contained in the schedule and the company is permitted to produce fresh herring - for bait only
Golden Shell Fisheries Ltd.	2011	April 15-April 30	Exempted from the processing requirements for herring contained in the schedule and the company is permitted to produce fresh herring - for bait only
3T's Ltd.	2010	April 16 - April 30	Exempted from the processing requirements for herring contained in the schedule and the company is permitted to produce fresh herring - for bait only
Avalon Ocean Products Inc.	2011	April 1-April 30	Authorized to produce round herring for markets outside the province and the product must meeting CFIA requirements
Golden Shell Fisheries Ltd.	2011	April 1-April 30	Authorized to produce for markets outside the province for "Bait Only"
Harbour Seafoods Limited	2011	April 1-April 30	Authorized to produce round herring for markets outside the province and the product must meeting CFIA requirements
J Mur Seafoods Limited	2011	April 1-April 30	Authorized to produce fresh herring for bait markets in the Maritimes labeled "Bait Only"
Northern Lights Seafood Inc.	2011	April 1-April 30	Authorized to produce for markets outside the province for "Bait Only"
Ocean Choice International LP	2011	April 1-April 30	Authorized to produce round herring for markets outside the province and the product must meeting CFIA requirements
3T's Ltd.	2011	October 25-October 31	Authorized to produce fresh herring for bait markets in the Maritimes labeled "Bait Only"

Almost all exemptions are period allowances for bait exports starting early or mid April and early October.

APPENDIX VII LICENSES BY AREA



APPENDIX VIII INSHORE LANDINGS

