

**A REVIEW OF THE DEPARTMENT OF FISHERIES AND  
AQUACULTURE'S MINIMUM PROCESSING REQUIREMENTS**

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**EXECUTIVE SUMMARY**

The enclosed document has been prepared by Burke Consulting Inc. for the Government of Newfoundland and Labrador's Department of Fisheries and Aquaculture. It provides a review of the Department's Minimum Processing Requirements system, with the goal of providing a series of recommendations related to minimum authorized processing requirements that will assist it in developing a new policy framework and listing of Minimum Processing Requirements. The report is presented in the following sections:

Introduction;  
Background;  
Stakeholder Feedback;  
Benefits to the Province;  
Market Assessment; and  
Recommendations.

The Minister of Fisheries and Aquaculture prescribes minimum authorized treatments as a condition of all fish processing licences. This requirement stipulates that all fish intended for marketing must be directed into a product form which meets final market specifications. The Minimum Processing Requirements are intended to maximize the potential benefits of the fishery resource for the residents of this province from both an economic and employment perspective.

Over the years, the Department has reacted to and adjusted the required treatments and allowable exemptions based on changing market and/or economic conditions facing the industry. Major market shifts in snow crab, from meat to sections, and turbot, from fillets to H&G, have led to changes in treatments required by the Department to be in-line with these shifts. Processors also have the ability to apply for exemptions to the Minimum Processing Requirements list of authorized treatments in cases where market opportunities exist or the current treatments are uneconomic to process. Over the past six years a total of 94 exemptions were implemented, for an average of less than 16 per year. In 2006 the number of exemptions has risen to 42, with redfish accounting for 14 of these exemptions and turbot, herring and monkfish accounting for another 16.

Discussions were held with stakeholders to obtain their views on the Minimum Processing Requirements system and the treatments prescribed for different species. From an overall perspective, there was no consensus in terms of the value of the Minimum Processing Requirements system and whether it should be maintained into the future. In many instances, this was also the case for the same respondent when discussing different species, i.e. for one or more species the Minimum Processing Requirements were viewed as important and necessary while for other species they were viewed as too restrictive. This is reflective of the different circumstances faced by

industry participants in terms of economics and/or market conditions. A majority of respondents did view the Minimum Processing Requirements system as an impediment that should be removed to enable industry to maximize market and as such economic returns. This is the view expressed in the paper submitted by the Association of Seafood Producers, appended to this report. However, there were those who viewed the removal of the system as potentially having a serious detrimental impact on their ongoing businesses.

Several respondents indicated that the Minimum Processing Requirements system was not considered a high priority item for them and that there were many challenges being faced by industry that were of more importance in terms of industry renewal. The ability to obtain exemptions when required for particular species on a timely basis was viewed as important and necessary. However, there were also comments received that the current exemption system should be made more open and transparent and that any changes should not be made without adequate warning to allow industry to adjust.

A general consensus reached from stakeholder discussions was that the market should be the primary determining factor in establishing approved product forms. In order to maximize the return from the market, industry indicated that it needs the flexibility to be able to take advantage of market opportunities and to react to market variability.

Feedback on the treatments prescribed for individual species is outlined in the report. In many cases, there is also a lack of consensus among stakeholders on the existing and preferred treatment options.

This report also assesses the benefits to the Province from the fishing industry on a macro and micro (species) basis. The overall benefits or value of the fishing industry to the economy of Newfoundland and Labrador has been profiled in two studies completed by the Provincial Department of Finance's Economic Research and Analysis Division. These studies are *Estimating the Value of the Marine, Coastal and Ocean Resources of Newfoundland and Labrador* and *Profiling the Manufacturing Sector in Newfoundland and Labrador*. These studies demonstrate the important role the fishing industry plays in the provincial economy, especially in terms of the employment and labour income impacts of this sector.

Using updated indirect and induced multipliers for the fishing industry, obtained from the Department of Finance's Economic Research and Analysis Division, estimates have been prepared with respect to the economic impacts of the processing and harvesting sectors for the years 2002 to 2005. Estimates show that although the direct GDP economic impact of the fish harvesting sector (\$211.9 Million in 2005) was greater than that of the fish processing sector (\$186.2 Million in 2005),

when taking into account the indirect and induced impacts the total GDP economic impacts of the fish processing sector (\$438.1 Million in 2005) are higher than the fish harvesting sector (\$360.9 Million in 2005). Employment impacts estimates show that the employment impacts were greater for the harvesting sector than for the processing sector (Total impact of 18,075 Person-years vs 13,741 PYs respectively in 2005).

To assess the individual treatments for species on an objective basis, economic models were prepared for each of the primary species under consideration. These models were used to compare different product forms, to assess the potential economic and employment impacts of processing these product forms. For each product form considered the models result in the calculation of three primary economic measures, GDP impacts, labour income impacts, and employment impacts. The species and product forms considered in the economic models are summarized in the following table. The detailed results and discussion on each of these species is provided in Section 4 of this report.

<b>Species and Product Forms Used in Economic Analyses</b>	
<b>Species</b>	<b>Product Forms</b>
Snow crab	5-8 oz Sections, Meat (Combo), 2 lb Retail
Cod	Fresh fillets, frozen fillets, split and salted, whole HOG
Yellowtail flounder	Fillets, whole round
Redfish	Fillets, whole round
Turbot	Fillets, H&G, HOG
Herring	Round, skin-on fillets, cured, whole fresh
Mackerel	Round, skin-on fillets, whole fresh
Capelin	Females, males/females

A market assessment for this project was prepared by Mr. John Sackton of Seafood.com providing for each major species or group of species the following information:

- Discussion of product forms in the world market;
- Discussion of product forms produced in Newfoundland;
- Market prices reflecting current or recent market conditions;
- Trends in product forms, and factors that impact the value of various product forms; and
- A discussion of whether current minimum processing requirements are aligned with market demands.

This analysis is appended to the report and Section 5 summarizes the market and other factors impacting on each species under consideration.

The final section of this report presents a series of recommendations regarding the Province's Minimum Processing Requirements system and the treatments assigned to each species. These recommendations are summarized below:

*System Recommendations*

- *It is recommended that the Provincial Department of Fisheries and Aquaculture maintain its Minimum Processing Requirements system, either maintaining the status quo or preferably implementing required changes to improve and streamline the system.*
- *It is recommended that the revised Minimum Processing Requirements system utilize the following guiding principles:*
  - Balance - The system should strive to find a balance between optimizing market returns and labour inputs in establishing minimum treatments. Where the value of additional market returns exceed the value of additional labour inputs for a processing treatment, this should prevail and vice versa;*
  - Efficiency - The system must be efficient and streamlined, to minimize the potential for negative impacts and for lost market opportunities;*
  - Transparency - Since the system applies to the full processing sector in the Province, there should be transparency in any changes and exemptions; and*
  - Viability - As a principle, the system should not result in imposing treatments that are not economically viable for processors or harvesters.*
- *It is recommended that current regulations be updated to remove out-of-date requirements, such as Section 35 of the Fish Inspection Regulations on the semi-processing of crab.*
- *It is recommended that a new exemption request Board, Panel or Committee be established to hear and make recommendations on exemption requests. A Board (established similar to the Fish Processing Licensing Board), a Panel (established similar to the Standing Fish Price Setting Panel) or an independent Committee should be established, with a mandate to receive, assess and provide recommendations on exemption requests. Given that efficiency and a rapid response to exemption requests is key, a Standing Panel or Committee may be the preferred option.*
- *It is recommended that in addition to the existing system where individual processors are able to make exemption requests for their own operations, a new tier of requests be established such that recognized processor representatives (ASP or SPANL) will*

- have the ability to submit industry-wide or member-wide exemption requests (for fundamental market shifts such as snow crab to sections or turbot to H&G).*
- It is recommended that the new review Board or Panel be given a timeline for response of a maximum of five business days for individual requests and 15 business days for requests from processor organizations.*
- It is recommended that a Notice of Receipt of Exemption Requests be distributed to stakeholders (ASP and SPANL for their members, FFAW) as soon as possible after the receipt of the exemption request. Stakeholders are to be provided with a limited timeframe (24 to 36 hours) to provide a written response to the Board or Panel on the exemption request in question.*
- It is recommended that those requesting exemptions be required to provide written documentation supporting their request, i.e. illustrating that the requested product form will provide greater benefits than the minimum prescribed treatment and/or that the minimum prescribed treatment is not economically viable.*
- It is recommended that the Board or Panel have ongoing access to up-to-date market intelligence, from internal DFA or external sources, to aid in their decision making.*
- It is recommended that a further evaluation of the Minimum Processing Requirements system be undertaken in two to three years, to assess the impact of industry renewal.*

#### *Species Recommendations*

- It is recommended that the base treatments for snow crab be maintained, i.e. sectioned or whole cooked.*
- It is recommended that under the labour-added treatment component for snow crab, that preferential weighting be given to product forms requiring higher labour inputs.*
- It is recommended that the current requirement be maintained for other crab and that any exemption request for sections by processors must be able to demonstrate quantitatively that the market differentials are such that the overall processing GDP benefits (return to processors + direct labour inputs) are greater than for the current allowed treatment, meat extraction.*
- It is recommended that the current minimum requirement for shrimp be maintained but that future consideration be given to other product forms (for existing processors) when quality and R&D issues are addressed and when it can be demonstrated that these product forms can provide socio-economic returns equivalent to or greater than cooked and peeled.*
- It is recommended that the current Minimum Processing Requirement treatments for cod be maintained.*
- It is recommended that exemptions for whole round redfish continue to be provided when market conditions for fillets are poor.*

- *It is recommended that consideration be given to a small fish protocol exemption, where processors have the ability to sell unprocessed small fish (which can't be economically processed in the province) to external buyers, helping to improve the viability of processing the remaining larger fish. Given fluctuations in markets and costs, the fish size exemption for each species should be established on an annual basis, possibly through a submission from the industry representatives.*
- *It is recommended that consideration be given to the inclusion of the head-on gutted product form in approved treatments for turbot and monkfish, to be consistent with market demands.*
- *It is recommended that the current treatments for pelagics be maintained but that consideration be given to exemption requests for fresh market opportunities where the increase in value and GDP impacts will exceed the loss in processing labour.*
- *It is recommended that the new directive on processing male capelin be maintained and that the province support efforts to improve the logistics of the fishery to enable industry to maximize the utilization and market value of these males.*
- *Based on current information, it is recommended that the current policy on lobster be maintained.*
- *It is recommended that the current Minimum Processing Requirement for whelk, i.e. whole frozen, be maintained.*



## **1.0 INTRODUCTION**

This report has been prepared by Burke Consulting Inc. for the Government of Newfoundland and Labrador's Department of Fisheries and Aquaculture to provide a Review of the Department's Minimum Processing Requirements. The goal of this report is to provide the Department with a recommended series of options related to minimum authorized processing requirements that will assist it in developing a new policy framework and listing of Minimum Processing Requirements.

This report is comprised of five main sections, as outlined below:

- *Background* - Provides a background on the Minimum Processing Requirements system utilized by the Department, including the legislation and regulations governing Minimum Processing Requirements and the recent history of exemptions requested and granted to these Minimum Processing Requirements. A brief assessment is also provided of how the Minimum Processing Requirements fits within the current Fishing Industry Renewal process;
- *Stakeholder Feedback* - Provides a summary of stakeholder feedback received on the current Minimum Processing Requirements system and stakeholder suggestions for future direction;
- *Benefits to the Province* - This section considers the economic benefits being provided to the Province by the fishing industry on a macro and micro level. On a macro level, the overall benefits being provided are assessed while on a micro level, major species and product forms are analyzed to assess whether the Minimum Processing Requirements system is having a positive or detrimental impact on being able to achieve maximum benefits from the resources for the Province;
- *Market Assessment* - In this section, an assessment of the market for the various species is provided, to outline whether the Minimum Processing Requirements system is constraining industry from meeting market requirements and if there are additional product form opportunities that might be available; and
- *Recommendations* - This section outlines options and recommendations for the Department in dealing with their Minimum Processing Requirements system on an overall and species by species basis.

## **2.0 BACKGROUND**

The Minister of Fisheries and Aquaculture (“Minister”) prescribes minimum authorized treatments as a condition of all fish processing licences. This requirement stipulates that all fish intended for marketing must be directed into a product form which meets final market specifications. The Minimum Processing Requirements are intended to maximize the potential benefits of the fishery resource for the residents of this province from both an economic and employment perspective.

Relevant legislation and regulations with respect to Minimum Processing Requirements includes the *Fisheries Act* c.F-12.1, SNL 1995, the *Fish Inspection Act* c.F-12, RSNL 1990 and the *Fish Inspection Regulations*. The legislative authority for this provision is granted under Section 4(2) of the *Fish Inspection Act* c.F-12, RSNL 1990. This section of the Act states as follows:

“4.(2) The minister may make regulations

(p) prescribing minimum processing requirements; (where under 2.(1) “minimum processing requirement” means the minimum processing required by the minister)”

Section 32(2) and 34(5) of the *Fish Inspection Regulations* allows the Minister to prescribe and attach different conditions to either a fish processing licence or a fish-buyers licence, such conditions including minimum processing requirements. These sections are as follows:

“32. (2) A fish processing licence may be issued by the minister upon those terms and conditions that he or she considers advisable and necessary, and may prescribe and attach different conditions to fish processing licenses in respect of different areas of the province.

34. (5) A fish buyer’s licence may be issued by the minister upon the terms and conditions that he or she considers advisable and necessary and may prescribe and attach different conditions to fish buyer’s licenses in respect of different areas of the province.”

This Act and Regulations also outline the inspection powers of the Department and the license suspension and penalty provisions available to the minister.

The Minimum Processing Requirements policy in essence places performance requirements on the processing sector and although it has been legally challenged in the past has held up over time. In

fact, Newfoundland and Labrador is one of only two jurisdictions in Canada, along with Quebec, with the regulatory authority to establish minimum treatments for its processing sector and where such restrictions are enforced. The current minimum processing requirements by species are as outlined in Table 2.1.

<b>Table 2.1 Current Minimum Authorized Treatments for Selected Species</b>	
<b>Species</b>	<b>Treatments</b>
<i>Snow Crab</i>	Sectioned or whole cooked; and 10% of all raw material purchases for 2006 must be processed into: (i) individually scored “snap and eat” leg segments; (ii) cap on or cap off cocktail claws; (iii) 2 lb (907 gram) consumer packs; (iv) meat removed from shell; or (v) other value added forms as may be approved.
<i>Other Crab</i>	Cooked and meat extracted.
<i>Redfish, Greysole, Yellowtail flounder Cod Hake Pollock Other groundfish.</i>	Filleted; or split and salted.
<i>Halibut or Turbot</i>	Headed and gutted and packaged in fresh or frozen form.
<i>Monkfish</i>	Filleted; tails; or headed and gutted in frozen form
<i>Herring, Mackerel or Capelin</i>	Salted and packaged in a carton not to exceed 110 kg.; or whole packaged in frozen form.
<i>Lobster</i>	Live.
<i>Shrimp</i>	Cooked and peeled
<i>Whelk</i>	Whole Frozen

The policy initially, in a groundfish dominated industry, focussed on bringing groundfish to a final stage, either filleted or salted. Over the years policy implementation has seen changes and a relaxation of requirements on some species, primarily in response to economic and market requirements. For example, the rules on turbot were relaxed from a requirement to bring to a minimum filleted stage to the current H&G requirement in response to quality, economic and market concerns. Similarly, for snow crab the minimum treatment requirement has been relaxed from a

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requirement to process into meat to the current requirement which sets sections or whole cooked as the minimum requirement with an additional requirement for 10% of the raw material to undergo further processing. This change occurred in response to a shift in the market towards sections. These examples illustrate that the Department has reacted to and adjusted the required treatments and allowable exemptions based on changing market and/or economic conditions facing the industry.

### ***Policy Exemptions***

The Minister may approve other product forms not identified in the current list of authorized treatments where it can be demonstrated that the product in question meets final market requirements and is not intended for further processing outside the Province. In these instances, companies are required to apply for an exemption which may be approved on a per shipment basis or otherwise. An exemption request form is available from the Department, see Appendix 1, although in many cases requests to the Licensing Division are made in the form of letters or emails. In recent years, there have been exemptions in varying circumstances given for a number of species, focussed primarily on groundfish species, including turbot, redfish and yellowtail.

A listing of exemptions since 2001 is provided in Appendix 2. The number of exemptions by year has been 13 in 2001, 17 in 2002, 7 in 2003, 8 in 2004, 7 in 2005 and 42 in 2006. The number of exemptions by species is outlined in Table 2.2. A total of 94 exemptions were implemented over the past six years, for an average of less than 16 per year. However, in 2006 the number of exemptions has risen to 42, with redfish accounting for 14 of these exemptions and turbot, herring and monkfish accounting for another 16. In 2006, exemptions were provided on a total of 17,083 tonnes of product, although only 5,022 tonnes were actually utilized by the processing companies. A total of 13 of the exemptions showed zero utilization, indicating that 30% of the exemptions that were approved were never used by processors.

Each request for exemption is assessed on a case by case basis, based on its merits. If considered a routine request, the timeframe on turnaround can be as little as a couple of days, with each approval requiring final sign-off by the Minister. The Department will consider changing market

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preferences in evaluating requests but has been reluctant to grant exemptions in cases where the minimum requirements are being adhered to by other plants.

**Table 2.2: Exemptions by Species - 2001 to 2006**

Species	2001	2002	2003	2004	2005	2006	Total
Cod	2	10	2	0	0	4	18
Flounder	3	1	2	1	0	0	7
Yellowtail	1	0	0	3	0	1	5
Haddock	1	2	0	2	0	0	5
Hake	4	1	0	0	1	4	10
Herring	0	0	0	0	0	5	5
Pollack	1	0	0	0	0	2	3
Turbot	1	0	0	0	0	6	7
Monkfish	0	3	0	0	0	5	8
Greysole	0	0	1	1	1	2	5
Redfish	0	0	2	1	5	14	22
Sea Urchin	0	0	0	1	0	0	1
Scallop	0	0	0	0	0	1	1
Whelk	0	0	0	0	0	2	2
Totals <sup>1</sup>	13	17	7	8	7	42	94

<sup>1</sup> Totals due not add in some years due to multi-species exemptions

***Minimum Processing Requirements and Industry Renewal***

The *Canada - Newfoundland and Labrador Fishing Industry Renewal Initiative Discussion Paper* lists Minimum Processing Requirements as one of the Other Policy Issues under Processing - Policy Renewal and Restructuring. This positioning is consistent with the general feedback received from stakeholders, as detailed in the following section, that there were many other issues of higher

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priority with respect to industry restructuring and renewal. A more detailed review of where this issue fits in the overall industry renewal process is provided in Appendix 3.

### ***Requirement for Review***

The changing nature of the industry, increased global competition and changing consumer tastes requires a review of the minimum authorized treatments that are currently prescribed by the Department. In looking at the policy the economic realities facing the industry must be considered. As an overall goal, the minimum processing requirements are intended to maximize the potential benefits of the fishery resource for the residents of this province from both an economic and employment perspective.

The Department is looking for a coherent policy, hopefully with a longer term horizon, where adjustments would only be required based on major shifts in markets or economics. It is also looking to identify the conditions that could trigger a review of the policy and treatments. The following sections investigate whether these goals and principles are achievable.

### **3.0 STAKEHOLDER FEEDBACK**

This section summarizes the input received from primary stakeholders with respect to their views on the Minimum Processing Requirements regulations. Stakeholders interviewed throughout this project included representatives from processor groups (ASP and SPANL), from the FFAW, representing the harvesting sector and the largest group of plant workers, as well as individual processors and harvesters. A full listing of those interviewed is provided in Appendix 4. In addition to stakeholder discussions, the Association of Seafood Producers also provided a paper addressing this issue. This paper is attached as Appendix 5.

From an overall perspective, there was no consensus in terms of the value of the Minimum Processing Requirements system and whether it should be maintained into the future. In many instances, this was also the case for the same respondent when discussing different species, i.e. for one or more species the Minimum Processing Requirements were viewed as important and necessary while for other species they were viewed as too restrictive. This is reflective of the different circumstances faced by industry participants in terms of economics and/or market conditions. A majority of respondents did view the Minimum Processing Requirements system as an impediment that should be removed to enable industry to maximize market and as such economic returns. This is the view expressed in the ASP Paper. However, there were those who viewed the removal of the system as potentially having a serious detrimental impact on their ongoing businesses.

Several respondents indicated that the Minimum Processing Requirements system was not considered a high priority item for them and that there were many challenges being faced by industry that were of more importance in terms of industry renewal. The ability to obtain exemptions when required for particular species on a timely basis was viewed as important and necessary. However, there were also comments received that the current exemption system should be made more open and transparent and that any changes should not be made without adequate warning to allow industry to adjust.

A general consensus reached from stakeholder discussions was that the market should be the primary determining factor in establishing product forms. In order to maximize the return from the

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market, industry needs the flexibility to be able to take advantage of market opportunities and to react to market variability.

There was some concern expressed regarding the study process and the development of economic models to look at various product forms. The concern was expressed that given the variability in markets and the variability in costs between processors, that an accurate model would be very difficult to develop and may be of limited utility. Processors indicated a preference for established guidelines rather than trying to use a model to make decisions.

Additional general comments received from the processing sector included the following:

- Other provinces do not have Minimum Processing Requirements, this places our industry at a competitive disadvantage;
- Additional processing does not necessarily add value to a product, in some cases the more that is done to the raw material, the lower the return that is received, i.e. it may be labour added but not necessarily value added;
- Quality must be at the forefront and is often a primary determinant of what product form can be produced, rather than the Minimum Processing Requirements. Examples cited included cod and shrimp. Efforts such as mandatory grading and a better matching of landing times to periods of higher intrinsic quality are required to ensure quality is maximized such that industry can produce premium product forms;
- Product form requirements change with changes in market demand;
- Competition from low cost and highly productive producers like China is having a significant impact on the industry and its economics;
- Labour shortages faced this year in all aspects of the industry (harvesting and processing) are real and are expected to continue in the future. These can impact on the ability to undertake additional processing; and
- Need to have the ability to provide competitive returns to harvesters. If unable to do so, larger vessels may look to take their landings to the Maritimes.

Feedback from those representing the harvesting sector and plant workers indicated a requirement



for a balance between maximizing the return from the market and maximizing the labour content. The concern was expressed by this group that any negative impacts of the current Minimum Processing Requirements system in terms of reduced market opportunities or reduced economics are impacting primarily on the harvesting sector in terms of lower prices for raw material.

If significant differences in market prices are available between product forms, this could impact significantly on raw material prices. Quantifying the differences in work content between processing different product forms would enable an analysis based on achieving the required balance. Where market differentials outweigh labour differentials, these product forms could be approved and vice versa.

The feedback received from this stakeholder group is that species need to be looked at on an individual basis and where issues exist with the current Minimum Processing Requirements system, this should be done in an open and transparent manner. The following section outlines the feedback received from stakeholders on a species basis. As detailed in the comments listed below, there is often a lack of consensus from industry on individual species, with competing views expressed by different industry members.

### ***3.1 Current Minimum Processing Requirements by Species***

#### **3.1.1 Snow Crab**

The treatments enforced under Minimum Processing Requirements have been adjusted over time to reflect market realities and the development of the sections market as the primary market for snow crab. However, the *Fish Inspection Regulations* have not been amended to reflect this fact, with Section 35 continuing to place limits on the semi-processing of crab, as below:

35. Semi-processing of crab by a person is prohibited except to the extent of 15% of
  - (a) the total previous year's processed crab produced for marketing by that person between April 1 and March 31; or
  - (b) in the case of a person who did not process crab the previous year, then the total estimated processed crab intended to be marketed as set out in the application for a

processing licence to the minister, unless the person has been granted a semi-processing license by the minister.

Reversion of the industry to a meat dominated sector is viewed as highly unlikely and as such, this regulation should be amended to reflect current realities.

In 2004, additional requirements were placed on the industry requiring that 10% of raw material purchases be further processed into “value-added” products. Feedback from industry was that if it was economically viable to produce these packs, the industry would be doing it. In many cases, industry has been incurring the penalty for not producing at the 10% level rather than putting production into uneconomic packs. The feeling among many industry representatives is that this requirement is not looking to add value but to add labour.

Other comments received with respect to snow crab are as follows:

- Remove the percentage requirement for “value-added”. If economic, processors will produce these product forms;
- Omit the word cooked from the Minimum Processing Requirements description, allow raw or live shipments;
- Make sure penalties are applied consistently;
- If 10% is maintained, make sure all “value-added” activities are included;
- Only a few processors still maintain the capital to do meat. For those still doing meat, they are only using inferior quality product. Will lose money if everyone produces meat;
- More clearly define the 10%, not just on raw material as different product forms require different levels of labour, eg. crab au gratin requires limited raw material but a high labour content;
- Some have produced packs to try to abide by the regulations and had trouble marketing these packs, resulting in losses; and
- Prefer to pay the fines rather than produce products at a loss.

### **3.1.2 Shrimp**

The current Minimum Processing Requirement for shrimp requires 100% to go into cooked and peeled production. The feedback received from a majority of stakeholders, especially those without shrimp licenses, is that consideration should be given to expanding the approved treatments to include shell-on and raw products. Industry indicated that requests for these product forms have been increasing in recent years and that industry should be able to produce in the product form that the market desires. Given the flooded condition of the cooked and peeled market it was felt by many that the redirection of a portion of the current supply into other product forms may help this market as well.

Other comments received with respect to shrimp included the following:

- Don't see the addition of shell-on and raw products as having much of an impact in terms of changes in current shrimp processing, but would prefer to have the option of being able to meet new market opportunities/requirements;
- Would prefer not to have a level or percentage set in terms of the amount that can be put into these other products;
- Change Minimum Processing Requirements wording to say "cooked and peeled and other suitable market forms";
- Several processors not currently involved in the shrimp sector indicated a desire to expand product forms, potentially to provide them with the opportunity to enter the sector; and
- Quality will be a primary determining factor in the ability to produce other product forms, will be a limiting factor in terms of volumes that may be able to go into product forms that require premium quality raw material.

### **3.1.3 Groundfish**

This section summarizes the feedback received on various groundfish species, including: cod, Yellowtail flounder, redfish and turbot. In general, groundfish species are the area where there is the most disagreement between stakeholders in terms of the value and need for Minimum Processing

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Requirements. This may be reflective of the wide diversity in operations in the groundfish sector, from highly capital intensive and advanced operations to small facilities with minimal overhead.

#### *Cod*

The current Minimum Processing Requirements for cod, and most groundfish, is for filleted or split and salted production. Most respondents, other than a general distaste for the Minimum Processing Requirements system, indicated that they did not have a problem with the current requirements for cod. Some expressed strong support for the system with respect to cod, fearing that the relaxation of requirements may have a detrimental impact on raw material resource availability for their operations.

Other comments expressed by stakeholders with respect to cod included the following:

- Quality is a bigger issue, need to have mandatory raw material grading for cod and better timing of the fishery to avoid periods where the flesh quality is intrinsically poorer;
- Cod < 32" should be filleted, while that > 32" can be split and salted;
- Too many buyers that are not adding value to the resource but simply driving up the price of raw material;
- Smaller processors producing mainly saltfish with much lower production costs and overhead but less value from the market; and
- Grey market (direct sales) is a problem, lots of the small quotas never make it to the plants, being sold fresh.

#### *Yellowtail flounder*

Yellowtail flounder is a species which is prosecuted by only two companies, Fishery Products International and Icewater Seafoods. The Minimum Processing Requirements are the standard for groundfish, filleted or split and salted. These requirements are seen as a major impediment to industry, as the Yellowtail resource intrinsically includes a high portion of small fish, estimated at 30% small fish (< 380 grams) that can only be processed at a loss (yielding 1.5 oz fillets). As a

result of an inability to receive exemptions on small fish production for Yellowtail (note the according to the Department, FPI did not make an exemption request for Yellowtail in 2006), this is one of the factors resulting in the resource (over 20 million lbs) being left in the water for 2006, producing no economic return to the Province.

Additional comments on Yellowtail include:

- Need exemptions for small fish, fish mix intrinsically includes small fish;
- Impossible to compete against China on the processing of small fish, only options are to sell it for some return or send it to the dump;
- In areas where larger Yellowtail is available, the by-catch of American Plaice is too high and DFO shuts down the fishery;
- Fish size where red ink turns to black is a moving target given changes in market conditions and costs;
- Principal for regulation should be economic viability.

### *Redfish*

Redfish is another species in which the Minimum Processing Requirements are for filleted or split and salted. This species has been subject to the highest number of exemption requests in 2006, with 14 for the full year. Two distinct views have emerged with respect to redfish, one held by the majority of processors that exemptions for whole fish and H&G are required for economic viability and the other held by one processor that filleting can be done economically. Given the current reluctance to grant exemptions where processors are adhering to the policy, this has limited the provision of exemptions and the participation by many processors in the redfish fishery.

Comments received with respect to redfish from various stakeholders included:

- Redfish must be produced in the most feasible manner, small redfish are difficult to fillet, there is no machine to cut small fish, results in lots of wastage. Largest market is H&G over 300 g. Just as many jobs in whole round production as fillets;
- Fillet where possible and allow whole or H&G based on market and feasibility;
- Redfish market can support 100% filleting. Large investment in technology and HR,

this investment should be considered. Four to five times more labour in filleting redfish as opposed to whole round;

- Should be able to produce whole round redfish. They don't have to land it in NL, offshore is an option. Prices for redfish fillets are depressed, there should be continued exemptions for whole or H&G redfish;
- Differences in how processors buy their redfish, some not paying for small fish;
- Markets should dictate product form, exemptions should be consistent for everyone;
- Need exemptions for redfish by-catch. One alternative may be to exempt by-catch raw material vs that from a directed fishery. By-catch volumes tend to be low and of inconsistent quality;
- Should one processor dictate what happens for all others; and
- One alternative, make it a restriction process rather than an exemption process. Those looking to do more processing (fillets) identifies volume required before others get access for whole or H&G.

### *Turbot and Halibut*

The Minimum Processing Requirement for turbot and halibut is headed and gutted and packaged in fresh or frozen form. Feedback received is that some markets like to see the fish in its whole form (whole or HOG) and that the heading only adds minimal employment benefits. Similar feedback was received regarding halibut.

### *Other Groundfish*

Comments received on other groundfish included the following:

- *Monkfish*: Should not have to be headed and gutted;
- *Hake*: Minimum Processing Requirements restricts access to fresh H&G market in the US. Fresh hake has achieved market prices of \$2-3/ lb US, there should be exemptions when this market opportunity is available; and
- *Blackback*: Only market is for bait, therefore need exemptions.

### 3.1.4 Pelagics

The feedback received from stakeholders with respect to Minimum Processing Requirements for pelagic species, i.e. herring, mackerel or capelin is provided in the following paragraphs. The current requirement is salted and packaged in a carton not to exceed 110 kg. or whole packaged in frozen form. For capelin a new requirement was implemented in 2006 requiring 100% utilization, including males. Comments were received that there should be some flexibility for pelagics with respect to fresh product, to take advantage of market opportunities.

#### *Herring*

- Should be no restrictions for fresh sales;
- Current requirements are fine (2 processors);
- No restrictions;
- Requirements should not interfere with market opportunities;
- Requirements should be relaxed when harvesters will be able to receive a significantly higher return for their catch;
- West coast company had a market identified for fresh herring but were not permitted to ship in this form, could have paid a significantly higher price to harvesters.

#### *Mackerel*

- Current requirements are fine (2 processors);
- No restrictions;
- Requirements should not interfere with market opportunities.

#### *Capelin*

- 100% utilization is a positive development;
- Problem for males is having the capacity to freeze during short period, freezers fill up with females, presents significant logistical problems;
- Full utilization only when economic;
- Very difficult in a short season;
- Slow down season to be able to achieve full utilization.

### **3.1.5 Other Species**

Comments were also received on other species, as detailed below.

*Toad Crab*: The Minimum Processing Requirement is for 100% meat removal but there is a limited market. Feedback received is that industry should be able to produce at least a portion into toad crab sections.

*Whelk*: The Minimum Processing Requirement is whole frozen. Limited feedback is that this restriction should stay in place.

*Lobster*: Currently no minimum as lobster can be shipped live. One processor recommended restricting whole lobster exports and indicated they would be willing to buy all lobster and process into meat. Indicated that NL lobster is better quality and yield than Nova Scotia or Prince Edward Island.

*Farmed salmon*: New rules (if any) should reflect the market realities, need to be able to go out in a fresh state.

### **3.2 Submission by the Association of Seafood Producers**

A formal written submission on Minimum Processing Requirements was provided by the Association of Seafood Producers (ASP) and is attached in Appendix 5. ASP is recommending that the Minimum Processing Requirements system be revised, possibly over a transition period, so that industry's decisions on product forms can be based on reacting to market realities and opportunities. "We are, in short, in favour of the province adopting a market specification "minimum processing requirement." This would allow industry and all stakeholders together to maximize economic return to the province, and increase the overall value of the fishery to the province. This should be the undergirding principle in our fisheries processing policy."

In their paper, ASP is recommending a revision to the current system based on five reasons:



### ***Review of Minimum Processing Requirements***

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- NL Producers should operate on the same footing as our competitors;
- The objective of maximizing economic value is not met by minimum processing restrictions;
- Increased market returns from a renewed processing policy will place the industry on a sounder footing;
- Work Content Maximization is not the right goal with increasing worker shortages; and
- Government edicts do not correspond to market realities.

ASP supports moving to a 100% market specification policy for processing, possibly over a three year transition period. This issue is seen as only one small piece of the required industry renewal. “Minimum processing requirements are just another piece of the restructuring puzzle that we must grapple with. The whole topic would largely disappear if the industry were rationalized and the painful decisions that need to be made by all stakeholders were made.”

## **4.0 BENEFITS TO THE PROVINCE**

This section considers the benefits that the fishing industry brings to the Province of Newfoundland and Labrador from a macro and a micro perspective. On a macro perspective, the overall benefits are outlined, while the micro perspective takes a closer look at benefits on a species and product form basis.

### ***4.1 Overall Benefits to the Province***

The following paragraphs assess the overall value of the fishing industry to the economy in Newfoundland and Labrador. This is done by considering prior studies done in this area and by providing economic impact measurements using recent data.

The overall benefits or value of the fishing industry to the economy of Newfoundland and Labrador has been profiled in two studies completed by the Provincial Department of Finance's Economic Research and Analysis Division. These studies are *Estimating the Value of the Marine, Coastal and Ocean Resources of Newfoundland and Labrador* and *Profiling the Manufacturing Sector in Newfoundland and Labrador*. Relevant information from each of these studies is outlined below.

#### *Estimating the Value of the Marine, Coastal and Ocean Resources of Newfoundland and Labrador*

In 2001, the Department of Fisheries and Aquaculture and Fisheries and Oceans Canada requested this study to estimate the economic value of oceans, marine and coastal activity in the province. This original study covered the 1997 to 1999 period and in 2005, DFO requested an update to this study which then covered the 2001 to 2004 period. As outlined in the 2005 report: "Economic value can be derived from ocean resources and from use of the ocean as a means of movement, operation, business activity, and innovation... The economic impacts of an activity or project encompass a wide array of indicators such as Gross Domestic Product (GDP) in current dollars, labour income (wages and salaries plus supplementary labour income such as employers' portion of mandatory employment programs and pension contributions) and employment. To calculate economic impacts due to spinoff activity, the Department of Finance used the Newfoundland and

Labrador Econometric Model and multipliers from the provincial Input-Output Model.”

This study provided data on the direct and the indirect and induced impacts of the fish harvesting and fish processing sectors in terms of their contribution to the overall impact of the Oceans Sector. Table 4.1 summarizes the direct and total economic impacts of these sectors on an average basis for the 2001-2004 time period. The study does caution in using these numbers that: “In some cases direct oceans related industries are also indirect...To avoid double counting, the indirect multipliers have been adjusted to remove any direct impacts qualified elsewhere. As such, readers are cautioned that individual industry impacts in this report are lower in some cases than if an impact was conducted for an industry on a stand alone basis.”

**Table 4.1: Direct and Total Economic Impacts of the Fish Harvesting and Fish Processing Sectors, Average of 2001-2004**

Sector	GDP		Employment		Labour Income	
	\$M	% of Total GDP	PYs	% of Total Provincial Employment	\$M	% of Total Provincial Labour Income
<i>Direct Economic Impacts</i>						
Fish Harvesting	\$249.4	1.6%	7,800	3.7%	\$196.5	2.7%
Fish Processing	\$203.5	1.3%	7,002	3.3%	\$179.6	2.4%
<i>Total Economic Impacts</i>						
Fish Harvesting	\$412.0	2.7%	12,621	6.0%	\$309.5	4.2%
Fish Processing	\$503.3	3.3%	12,300	5.9%	\$412.4	5.6%
<i>Indirect and Induced Impacts Multipliers (calculated)</i>						
Fish Harvesting	1.65		1.62		1.58	
Fish Processing	2.47		1.76		2.3	
Source: Estimating the Value of the Marine, Coastal and Ocean Resources of Newfoundland and Labrador, Updated for the 2001-2004 Period, pp. 16-17. Multipliers were calculated.						

The above figures illustrate that the fishing industry is a significant contributor to the Provincial economy, providing close to 6.0% of GDP, 11.9% of total employment and 9.8% of total labour income. The higher level of employment impacts illustrates that the fishing industry is more labour intensive than most other industries.

A description of the three types of impacts, i.e. direct, indirect and induced, as provided in this study are as follows:

- Direct impacts are generated by workers and business owners working directly on a given activity or project.
- Indirect impacts are generated when other firms supply goods and services to the direct activity or project; and
- Induced impacts are generated when direct and indirect employees and business owners spend their incomes [in] other areas of the economy which leads to increased retail sales, housing starts and so on.

Comparing the data for the fish harvesting and fish processing sectors shows that although the average direct impacts for the fish harvesting sector, in terms of GDP, employment and labour income, were higher than for the fish processing sector over the 2001-2004 period, the total economic impact of the fish processing sector, when including associated indirect and induced impacts, is actually higher than for fish harvesting in terms of GDP and labour incomes. This indicates that the indirect and induced impacts for the processing sector are higher than for the harvesting sector, as shown by the multipliers calculated for each sector. In other words, every dollar of GDP or labour income generated in the processing sector has a greater impact on the total economy than every dollar generated in the harvesting sector. As detailed further on in this section, this distinction is supported by the most recent multiplier data available from the Provincial government. However, it must be pointed out that these sectors are highly interrelated, with the economic impacts of the processing sector not occurring without the inputs from the harvesting sector.

*Profiling the Manufacturing Sector in Newfoundland and Labrador*

This study was published in March 2003 and provides an assessment of the manufacturing sector in Newfoundland and Labrador, including the economic impact of manufacturing. Industry groups covered in the study included: seafood products; other food products; beverages; wood products; pulp and paper; petroleum refining; fabricated metal products; ship and boatbuilding; and all other manufacturing.

The total direct real GDP impact of manufacturing in the province was \$732.2 million in 2001, which was about 6.4% of the provincial real GDP. Adding in the indirect and induced impacts of the manufacturing sector, the total impact was \$1.69 Billion, for 14.8% of total economic activity. As illustrated in Figure 4.1, the seafood products sector provided the largest economic impact of any manufacturing sector, with 25.6% of the total direct real GDP and 30.2% of the total impact from the manufacturing sector in 2001.

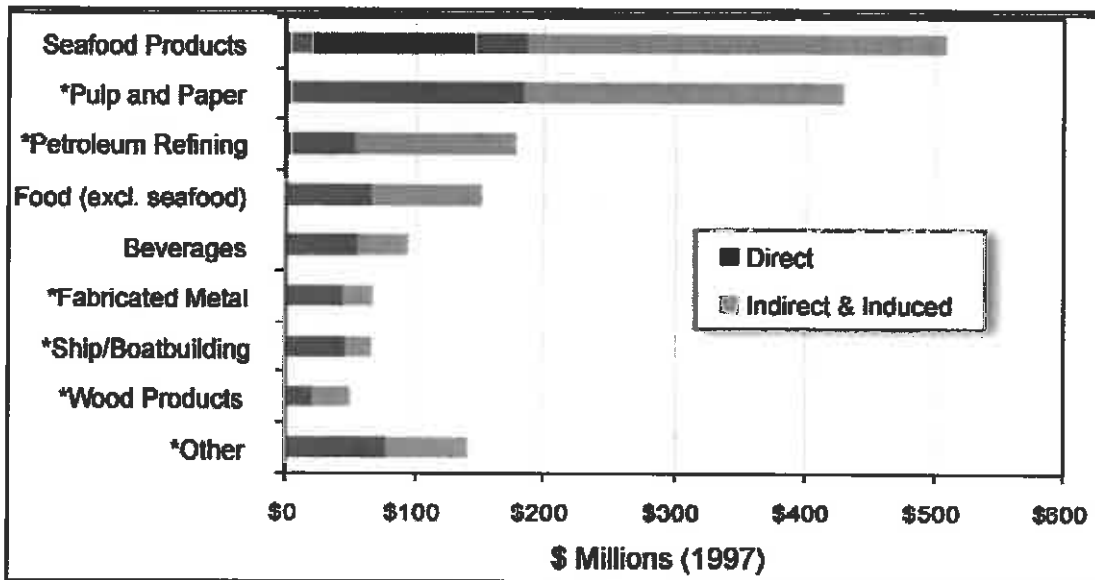
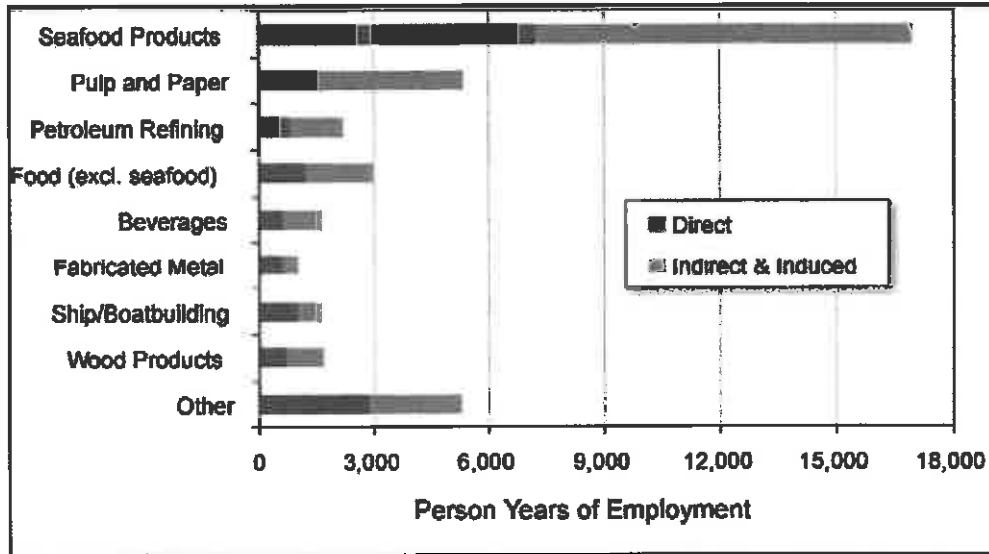


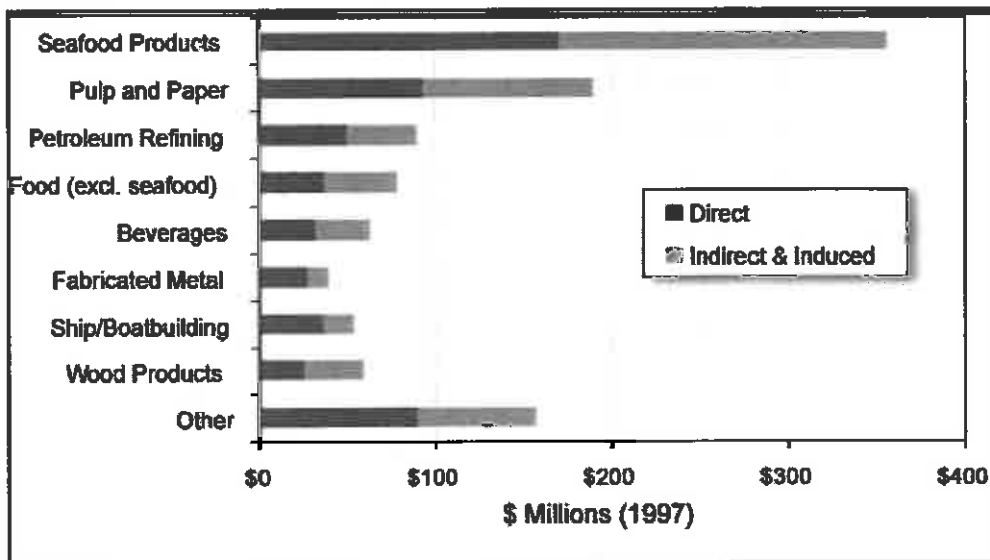
Figure 4.1: Manufacturing Real GDP Impacts, 2001 (Source: *Profiling the Manufacturing Sector in Newfoundland and Labrador*, p. 35.)

In terms of other economic measures, including employment and labour income impacts, Figures 4.2 and 4.3 show that the seafood products sector had a more dominant role in the manufacturing sector. Of the 16,400 person years in direct employment and 38,500 person years in total employment provided by the manufacturing sector in 2001, seafood processing accounted for 43.9%

of this direct employment and 44.0% of the total employment. Total direct real labour income associated with the manufacturing sector was \$560.1 million in 2001 and the total labour income impact of the sector was \$1.09 Billion. Seafood processing accounted for 30.5% of direct real labour income and 32.8% of total real labour income impacts from the manufacturing sector.



**Figure 4.2.** Manufacturing Employment Impacts, 2001 (Source: *Profiling the Manufacturing Sector in Newfoundland and Labrador*, p. 36.)



**Figure 4.3:** Manufacturing Real Labour Income Impacts, 2001 (Source: *Profiling the Manufacturing Sector in Newfoundland and Labrador*, p. 36.)

This study demonstrated the important role the seafood products sector plays in the manufacturing sector and in the provincial economy, especially in terms of the employment and labour income impacts of this sector.

*Estimated Impacts*

In order to provide updated estimates on the economic impact of the fishing industry on the Provincial economy, discussions were held with the Provincial Department of Finance's Economic Research and Analysis Division, to obtain the most recent indirect and induced multipliers that could be utilized for this industry. This data is summarized in Table 4.2. These multipliers illustrate that for the economic measures of GDP and Labour Income, the indirect impacts of the Fish Processing sector are significantly greater than that of the Fish Harvesting sector.

<b>Table 4.2: Fishing Industry Multipliers</b>			
	<b>GDP</b>	<b>Labour Income</b>	<b>Employment (FYE)</b>
<i>Indirect Multipliers</i>			
Fish Processing (including harvesting as indirect)	2.5	2.44	1.9
Fish Processing (adjusted to exclude the impacts of fish harvesting)	1.81	1.69	1.51
Fish Harvesting	1.31	1.24	1.58
<i>Induced Multipliers</i>			
Fish Processing and Harvesting	1.3	1.3	1.3
Notes: Indirect Multipliers based on Statistics Canada's 2002 preliminary Input Output (IO) data. Induced Multiplier is the standard induced multiplier for Newfoundland and Labrador calculated from the Provincial econometric model.			

Based on utilizing the above multipliers, estimates have been prepared with respect to the economic impacts of the processing and harvesting sectors. For GDP, the 2002 values for GDP available from Statistics Canada for the Primary Fishing and Seafood Processing sectors is used to estimate the 2002 GDP. For 2003 to 2005, estimates were calculated based on the value of fish landings and the production value of fish products for those years, from DFA's annual *Year In Review* reports. Table 4.3 summarizes the estimated GDP impacts of the fishing industry from 2002 through 2005. This table shows that although the direct GDP economic impact of the fish harvesting sector was greater than that of the fish processing sector, when taking into account the indirect and induced impacts the total GDP economic impacts of the fish processing sector are higher than the fish harvesting sector.

<b>Table 4.3: GDP Impacts of the Fish Harvesting and Fish Processing Sectors (2002-2005)</b>				
<b>(\$M)</b>				
	2002	2003	2004	2005
<i>Direct Economic Impacts</i>				
Fish Harvesting	\$232.2	\$264.5	\$278.5	\$211.9
Fish Processing	\$203.8	\$224.2	\$244.6	\$186.2
Total	\$436.0	\$488.7	\$523.1	\$398.1
<i>Total Economic Impacts</i>				
Fish Harvesting	\$395.4	\$450.4	\$474.2	\$360.9
Fish Processing	\$479.5	\$527.5	\$575.4	\$438.1
Total	\$874.9	\$977.9	\$1,049.6	\$799.0

Employment impacts, summarized in Table 4.4, were estimated utilizing the average annual employment data for the harvesting and processing sectors, from DFA's annual *Year In Review* reports. This data shows that the employment impacts are greater for the harvesting sector than for the processing sector.

<b>Table 4.4: Employment Impacts of the Fish Harvesting and Fish Processing Sectors</b>				
<b>(2002-2005) (PYs)</b>				
	2002	2003	2004	2005
<i>Direct Economic Impacts</i>				
Fish Harvesting	8,300	8,100	8,300	8,800
Fish Processing	7,900	6,000	7,800	7,000
Total	16,200	14,100	16,100	15,800
<i>Total Economic Impacts</i>				
Fish Harvesting	17,048	16,637	17,048	18,075
Fish Processing	15,508	11,778	15,311	13,741
Total	32,556	28,415	32,359	31,816



## **4.2 Benefits by Species and Product Form**

As detailed in the previous section, the fishing industry is a significant contributor to the economy of the Province of Newfoundland and Labrador. This section attempts to provide an evaluation of the benefits to the Province on a species and product form basis, such that it may be possible to evaluate the Minimum Processing Requirements system and whether the prescribed treatments are achieving the optimal benefits for the Province.

In order to undertake this task, a detailed economic model was developed for each species of interest, where comparisons could be made between the benefits derived from each product form. These models were completed by study team members with extensive experience in the Newfoundland and Labrador fishing industry, utilizing published data (DFA Productivity Handbooks, price agreements), costing data from those processors willing to share this data, their own experience in plant operations and costing and market data provided by Mr. John Sackton of Seafood.com.

An example of the type of model developed, using Snow crab as an example, is provided in Appendix 6. This model looks to identify the GDP and employment impacts of different product forms.

The species and product forms considered in the economic models are summarized in Table 4.5. Prior to discussing each of these species and the results of their analysis, several caveats must be outlined with respect to the development and use of such economic models, as follows:

- The models are only as strong as the data used in their completion and the study team did not have access to comprehensive industry costing data by species;
- The models attempted to provide an analysis of “average” operations. A wide range of cost factors can and does exist between processing operations, especially in the groundfish sector where operations can vary from state-of-the-art, high overhead facilities to facilities with very low overhead and technology. Different costing structures can impact on the individual viability of operations by product form;
- Market prices and costs can change, sometimes significantly, especially in terms of

- the market prices and raw materials, generally the primary cost factor in processing operations. These changes can impact on the viability by species and product form;
- Raw material prices are negotiated and/or established by species based on the market and product form conditions of the time. Alternate product forms, with different market prices, could potentially impact on the raw material pricing;
  - The models are based on processing 100% of the raw material quota through each individual treatment, which in many cases may not be realistic given quality or market considerations and limitations; and
  - The industry multipliers provided in Table 4.2 are utilized for all species and product forms. It must be noted that these are industry-wide multipliers and it is possible, and quite likely, that the indirect and induced benefit levels will vary from species to species and even across product forms.

<b>Species</b>	<b>Product Forms</b>
Snow crab	5-8 oz Sections, Meat (Combo), 2 lb Retail
Cod	Fresh fillets, frozen fillets, split and salted, whole HOG
Yellowtail flounder	Fillets, whole round
Redfish	Fillets, whole round
Turbot	Fillets, H&G, HOG
Herring	Round, skin-on fillets, cured, whole fresh
Mackerel	Round, skin-on fillets
Capelin	Females, males/females

These species were the primary focus of the analysis, as the species where the Minimum Processing Requirements system has been considered to have the most impact. For most of the other species, the Minimum Processing Requirements was not seen as a deterrent, or they are considered minor species, or as is the case with shrimp, there is only one product form being utilized for which information would be available. The following paragraphs summarize the analysis of each species. For each species, a table is presented outlining the potential economic impacts for each product form, using the three primary measures of economic impact: GDP, labour incomes and employment.

### *Review of Minimum Processing Requirements*

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In each of these tables, the economic impact is calculated for each product form based on the assumption that the full quota is directed to that product form. For each measure of economic impact, the impacts for the harvesting and processing sectors are calculated separately and the indirect and induced multipliers provided in Table 4.2 are used to determine total impacts. An additional adjustment multiplier is added to each calculation based on the fact that the fish harvesting and processing sectors make greater use of the Employment Insurance system than other industries. Although on an economy wide basis the induced multiplier would capture the EI benefits impacts on the economy, an additional multiplier is added for the fishing industry to capture the additional induced benefits derived from this sectors higher than average utilization of the EI system.

#### *Snow crab*

The current Minimum Processing Requirements for snow crab are for sectioned or whole cooked; with 10% of all raw material purchases processed into:

- (i) individually scored “snap and eat” leg segments;
- (ii) cap on or cap off cocktail claws;
- (iii) 2 lb (907 gram) consumer packs;
- (iv) meat removed from shell; or
- (v) other value added forms as may be approved.

Sections have emerged as the primary market form for snow crab, replacing the traditionally dominant meat market. This change has been reflected in the change in the Minimum Processing Requirement for snow crab to allow for sections as the primary product form. The model for snow crab considers sections, meat and one of the identified “value added” treatments, the 2 lb retail pack in the analysis presented at the end of this section. Following are the primary findings from this analysis:

#### *GDP Impacts*

- Sections provide the highest level of return to processors but the lowest level of direct processing labour of the three product forms considered;
- Meat production provides the highest level of direct processing labour per lb of raw material, at close to three times that of sections, but a lower level of return to

processors. As further detailed in the market analysis provided in Section 6, meat prices have remained fairly stable, so when raw material prices were low as in the 2006 prices used in this model, it is possible for those processing establishments with meat production capabilities to generate a reasonable return. It is estimated that meat production could have provided the highest level of overall GDP benefit in 2006, due to the depressed raw material prices (of around \$1.10/lb). However, with increasing raw material prices and a continued stability in meat market prices, this advantage for meat production would quickly disappear, leading to a negative return for processors;

- The “value added” 2 lb retail pack provides a boost in labour inputs but without a corresponding increase in market value required to cover these additional costs and resulted in the lowest values in terms of return to processors and overall GDP impact. Although this pack may be a viable outlet for small crab, it would not make economic sense to direct 100% of production to this product form.

*Labour Income Impacts*

- Labour income impacts in the snow crab sector would be highest for meat (at over \$140 Million if all product was processed as meat), followed by the 2 lb retail packs and finally the sections.

*Employment Impacts*

- The employment impacts in Full-year Equivalents (FYE) would also be highest for meat, followed by the 2 lb retail packs and sections.

Overall, at the low raw material prices experienced in 2006, meat production would provide the greatest economic return in terms of GDP and employment measures. However, an increase in raw material prices toward pre-2006 levels (anything over \$1.20/lb) would impact negatively on the economic viability of meat production, such that sections would have a greater GDP impact. It is also not realistic to expect that the market could absorb 100% of production into meat without having a significant impact on price.

A further discussion of the “value added” regulation for snow crab is provided in the following paragraphs. In 2004, the requirement for industry to further process 10% of their snow crab into

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“value added” packs was implemented, primarily to increase labour inputs in the snow crab sector. However, to be truly considered “value added” production, the additional market return achieved should exceed the additional processing costs incurred in undertaking these treatments. Unfortunately, this has not been the case for many treatments and as a result, many processors have not adhered to the 10% rule. Statistics from DFA indicate that in 2004 and 2005 a majority of snow crab processing plants did not reach the 10% of raw material in “value added” level and were subject to surcharges or penalties. In both years, the level of surcharge levied approached \$250,000, with industry falling short of the 10% requirement by over 50% in 2004 and over 38% in 2005. Processors have indicated that they would in many cases prefer to take the penalty of failing to meet the 10% requirement rather than to produce uneconomic product forms.

An additional concern with the current 10% rule, assuming that it is designed to increase the level of labour inputs in the snow crab sector, is that not all of the approved treatments result in similar levels of additional labour inputs and that the current measurement system (% of raw material into the “value added” treatments) actually provides less recognition for product forms such as “crab au gratin” which use relatively small amounts of raw material but result in significantly more labour-added than other approved treatments.

To provide a methodology for measuring the “value added” inputs which provides greater fairness, a methodology which also reflects labour inputs should be considered. Such a system could utilize a multiplier on raw material for those treatments that involve higher levels of labour inputs. For example, where crab au gratin requires a significantly higher level of labour than other “value added” treatments, the raw material equivalent considered for the 10% rule could be grossed up by a multiplier factor to reflect this higher labour input. To determine the multiplier factors attributable to each eligible “value added” treatment, a study of labour inputs by treatment would be required.

**Economic Model**

**Crab**

<b>Quota 2006:</b>	46,233 MT
	101,925,272 lbs

<b>ECONOMIC INDICATORS</b>	<b>Product Type</b>		
	<b>5-8 oz Sections</b>	<b>Meat (combo)</b>	<b>2lb Retail</b>

**Economic Indicator - GDP**

<b>Harvesting</b>			
<b>Harvesting GDP</b>	\$47,180,095	\$47,180,095	\$47,180,095
<b>Indirect Impacts Multiplier</b>	1.31	1.31	1.31
<b>Induced Impacts Multiplier</b>	1.30	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	8.40%	8.40%	8.40%
<b>Total Harvesting</b>	\$81,558,019	\$81,558,019	\$81,558,019
<b>Processing</b>			
<b>Return to Processors</b>	\$23,862,783	\$13,242,054	-\$17,259,211
<b>Direct Processing Labour</b>	\$11,742,770	\$34,313,288	\$14,826,730
<b>Total</b>	\$35,605,553	\$47,555,342	-\$2,432,481
<b>Indirect Impacts Multiplier</b>	1.81	1.81	1.81
<b>Induced Impacts Multiplier</b>	1.30	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	5.81%	5.81%	5.81%
<b>Total Processing</b>	\$84,126,013	\$112,909,191	\$18,065,139
<b>Total Harvesting + Processing GDP</b>	\$165,684,033	\$194,467,211	\$99,623,158

**Economic Indicator - Labour Income**

<b>Harvesting</b>			
<b>Labour Income</b>	\$38,715,828	\$38,715,828	\$38,715,828
<b>Indirect Impacts Multiplier</b>	1.24	1.24	1.24
<b>Induced Impacts Multiplier</b>	1.30	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	8.40%	8.40%	8.40%
<b>Total Harvesting</b>	\$63,620,232	\$63,620,232	\$63,620,232
<b>Processing</b>			
<b>Direct Processing Labour Incomes</b>	\$11,742,770	\$34,313,288	\$14,826,730
<b>Indirect Impacts Multiplier</b>	1.69	1.69	1.69
<b>Induced Impacts Multiplier</b>	1.30	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	5.81%	5.81%	5.81%
<b>Total Processing</b>	\$26,145,013	\$76,397,766	\$33,011,380
<b>Total Harvesting + Processing Labour Income</b>	\$89,765,245	\$140,017,998	\$96,631,612

**Economic Indicator - Employment**

<b>Harvesting</b>			
<b>Direct Harvesting Labour - FyEs</b>	906.2	906.2	906.2
<b>Indirect Impacts Multiplier</b>	1.58	1.58	1.58
<b>Induced Impacts Multiplier</b>	1.30	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	8.40%	8.40%	8.40%
<b>Total Harvesting</b>	1,897.4	1,897.4	1,897.4
<b>Processing</b>			
<b>Direct Processing Labour - FyEs</b>	410.0	1,198.1	517.7
<b>Indirect Impacts Multiplier</b>	1.51	1.51	1.51
<b>Induced Impacts Multiplier</b>	1.30	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	5.81%	5.81%	5.81%
<b>Total</b>	815.7	2,383.5	1,029.9
<b>Total Harvesting + Processing Employment</b>	2,713.1	4,280.9	2,927.3

*Cod*

The current Minimum Processing Requirement for cod requires the fish to be filleted or split and salted. The economic analysis for cod presented on the following page considered fresh fillets, frozen fillets, split and salted and whole head-on-gutted as the alternate product forms. The results of this analysis are summarized as follows:

*GDP Impacts*

- The total GDP impacts of each of the existing approved product forms in the analysis were similar, ranging from \$30.2 to \$32.4 Million, with split and salted slightly higher than the other product forms; and
- The total GDP impact for whole HOG was significantly lower. Although this product form may provide a higher GDP contribution from the harvesting sector, as a result of the potential for higher raw material prices, the overall GDP contribution to the economy is lower by \$8-10 Million.

*Labour Income Impacts*

- Labour income impacts are much higher for filleting than for split and salted or whole HOG. Total labour income impacts for fresh or frozen filleting would be in the order of \$21.7 Million, as compared to \$18.0 Million for whole HOG and \$14.8 Million for split and salted.

*Employment Impacts*

Similarly to labour income impacts, the employment impacts (in full-year equivalents) are significantly higher for filleting than for the other product forms, a 740 FYEs and compared to 474 FYEs for split and salted and 371 FYEs for whole HOG.

It should be noted that variable cost structures within the groundfish processing sector could significantly impact individual operating results and the viability of different product forms. Based on the analysis provided, the current MPRs provide the greatest economic impact for the province from the cod sector. In terms of measures related to employment, the more that can be directed into filleting, the greater the impacts that would be achieved.

*Review of Minimum Processing Requirements*

**Economic Model**

**Cod**

<b>Quota 2006:</b>	15,565 MT	Adjusted for gut loss: 15%
	34,314,599 lbs	29,167,409 lbs

<b>ECONOMIC INDICATORS</b>	<b>Product Type</b>			
	<b>Fresh Fillets</b>	<b>Frozen Fillets</b>	<b>Split Salted</b>	<b>Whole HOG</b>

**Economic Indicator - GDP**

<b>Harvesting</b>				
<b>Harvesting GDP</b>	\$8,468,982	\$8,468,982	\$8,468,982	\$12,887,581
<i>Indirect Impacts Multiplier</i>	1.31	1.31	1.31	1.31
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	8.40%	8.40%	8.40%	8.40%
<b>Total Harvesting</b>	<b>\$14,639,932</b>	<b>\$14,639,932</b>	<b>\$14,639,932</b>	<b>\$22,278,157</b>
<b>Processing</b>				
<b>Return to Processors</b>	\$2,385,911	\$1,941,854	\$5,993,550	-\$78,839
<b>Direct Processing Labour</b>	\$4,582,317	\$4,582,317	\$1,527,439	\$261,847
<b>Total</b>	<b>\$6,968,228</b>	<b>\$6,524,171</b>	<b>\$7,520,989</b>	<b>\$183,008</b>
<i>Indirect Impacts Multiplier</i>	1.81	1.81	1.81	1.81
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	7.27%	7.27%	7.27%	7.27%
<b>Total Processing</b>	<b>\$16,565,084</b>	<b>\$15,520,219</b>	<b>\$17,753,169</b>	<b>\$546,934</b>
<b>Total Harvesting + Processing GDP</b>	<b>\$31,205,016</b>	<b>\$30,160,151</b>	<b>\$32,393,100</b>	<b>\$22,825,091</b>

**Economic Indicator - Labour Income**

<b>Harvesting</b>				
<b>Labour Income</b>	\$6,949,618	\$6,949,618	\$6,949,618	\$10,575,506
<i>Indirect Impacts Multiplier</i>	1.24	1.24	1.24	1.24
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	8.40%	8.40%	8.40%	8.40%
<b>Total Harvesting</b>	<b>\$11,420,040</b>	<b>\$11,420,040</b>	<b>\$11,420,040</b>	<b>\$17,378,322</b>
<b>Processing</b>				
<b>Direct Processing Labour Incomes</b>	\$4,582,317	\$4,582,317	\$1,527,439	\$261,847
<i>Indirect Impacts Multiplier</i>	1.69	1.69	1.69	1.69
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	7.27%	7.27%	7.27%	7.27%
<b>Total Processing</b>	<b>\$10,236,194</b>	<b>\$10,236,194</b>	<b>\$3,412,065</b>	<b>\$584,925</b>
<b>Total Harvesting + Processing Labour Income</b>	<b>\$21,656,234</b>	<b>\$21,656,234</b>	<b>\$14,832,105</b>	<b>\$17,963,247</b>

**Economic Indicator - Employment**

<b>Harvesting</b>				
<b>Direct Harvesting Labour - FyEs</b>	162.7	162.7	162.7	162.7
<i>Indirect Impacts Multiplier</i>	1.58	1.58	1.58	1.58
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	8.40%	8.40%	8.40%	8.40%
<b>Total Harvesting</b>	<b>340.6</b>	<b>340.6</b>	<b>340.6</b>	<b>340.6</b>
<b>Processing</b>				
<b>Direct Processing Labour - FyEs</b>	200.0	200.0	66.7	15.2
<i>Indirect Impacts Multiplier</i>	1.51	1.51	1.51	1.51
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	7.27%	7.27%	7.27%	7.27%
<b>Total</b>	<b>399.2</b>	<b>399.2</b>	<b>133.1</b>	<b>30.4</b>
<b>Total Harvesting + Processing Employment</b>	<b>739.8</b>	<b>739.8</b>	<b>473.7</b>	<b>371.0</b>



*Yellowtail flounder*

Yellowtail flounder is subject to the same Minimum Processing Requirements as cod and most groundfish species. The analysis on Yellowtail flounder considered the alternate product forms of fresh or frozen fillets and whole round production. The results of this analysis are presented on the following page and summarized below:

*GDP Impacts*

- At current market prices and given the intrinsic size mix of Yellowtail flounder (including a significant percentage of small fish), it is currently uneconomic for processors to produce Yellowtail flounder in either of the product forms considered. As a result, the Return to Processors is negative for each product form; and
- Significant potential GDP impacts are being lost to the economy in the Province due to the lack of activity in this sector. The potential GDP benefits from filleting are significantly higher than from whole round production.

*Labour Income Impacts*

- Filleting would provide a significantly higher level of labour income impacts than whole round production, \$29.2 Million as compared to \$17.0 Million.

*Employment Impacts*

- The employment impacts to be derived from yellowtail production would also be much higher for filleting than for whole round production. The potential differential would be as much as 475 Full-year Equivalents (FYE).

As a result of circumstances in the Yellowtail flounder sector very little was harvested in 2006. As previously discussed in Section 3, processors feel that an exemption on small fish that would enable these fish to be sold unprocessed to external markets, could potentially improve the economic viability and ability to process the larger Yellowtail in the Province.

From an economic impact perspective, filleting has the potential to provide significantly greater economic impacts than whole round production, but these impacts will only be achieved if the fish are economic to process.

**Economic Model**

**Yellowtail**

<b>Quota 2006:</b>	16,126 MT	Adjusted for gut loss: 7%
	35,551,380 lbs	33,062,783 lbs

<b>ECONOMIC INDICATORS</b>	<b>Product Type</b>		
	<b>Fresh Fillets</b>	<b>Frozen Fillets</b>	<b>Whole Rd</b>

**Economic Indicator - GDP**

<b>Harvesting</b>			
<b>Harvesting GDP</b>	\$6,956,546	\$6,956,546	\$6,956,546
<i>Indirect Impacts Multiplier</i>	1.31	1.31	1.31
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	8.40%	8.40%	8.40%
<b>Total Harvesting</b>	\$12,025,455	\$12,025,455	\$12,025,455
<b>Processing</b>			
<b>Return to Processors</b>	-\$6,765,133	-\$6,572,258	-\$12,044,749
<b>Direct Processing Labour</b>	\$8,879,138	\$8,879,138	\$3,424,810
<b>Total</b>	\$2,114,004	\$306,880	-\$8,619,939
<i>Indirect Impacts Multiplier</i>	1.81	1.81	1.81
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	7.27%	7.27%	7.27%
<b>Total Processing</b>	\$14,454,647	\$12,647,522	-\$3,859,977
<b>Total Harvesting + Processing GDP</b>	\$26,480,102	\$24,672,977	\$8,165,478

**Economic Indicator - Labour Income**

<b>Harvesting</b>			
<b>Labour Income</b>	\$5,708,518	\$5,708,518	\$5,708,518
<i>Indirect Impacts Multiplier</i>	1.24	1.24	1.24
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	8.40%	8.40%	8.40%
<b>Total Harvesting</b>	\$9,380,589	\$9,380,589	\$9,380,589
<b>Processing</b>			
<b>Direct Processing Labour Incomes</b>	\$8,879,138	\$8,879,138	\$3,424,810
<i>Indirect Impacts Multiplier</i>	1.69	1.69	1.69
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	7.27%	7.27%	7.27%
<b>Total Processing</b>	\$19,834,634	\$19,834,634	\$7,650,502
<b>Total Harvesting + Processing Labour Income</b>	\$29,215,223	\$29,215,223	\$17,031,090

**Economic Indicator - Employment**

<b>Harvesting</b>			
<b>Direct Harvesting Labour - FyEs</b>	133.6	133.6	133.6
<i>Indirect Impacts Multiplier</i>	1.58	1.58	1.58
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	8.40%	8.40%	8.40%
<b>Total Harvesting</b>	279.8	279.8	279.8
<b>Processing</b>			
<b>Direct Processing Labour - FyEs</b>	387.5	387.5	149.5
<i>Indirect Impacts Multiplier</i>	1.51	1.51	1.51
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	7.27%	7.27%	7.27%
<b>Total</b>	773.5	773.5	298.4
<b>Total Harvesting + Processing Employment</b>	1,053.3	1,053.3	578.1

*Redfish*

Redfish are also subject to the same Minimum Processing Requirements as cod and Yellowtail flounder. The analysis on redfish considered two product forms, frozen fillets, which is an approved treatment under the MPR system, and whole round, which is not an approved treatment. Results of the analysis presented on the following page are as follows:

*GDP Impacts*

- The return to processors is higher for whole round than fillets, under prevailing market conditions where reasonable prices are available for fillets;
- The direct processing labour on a per lb of raw material basis is higher for filleting but not by a significant amount (is four times higher on a per lb of finished product basis but the yield differentials between redfish fillets and whole redfish are such that the difference is minimal on a raw material basis); and
- The overall GDP impacts are almost equivalent for both treatments.

*Labour Income Impacts*

- Filleting would provide a higher level of labour income impacts than whole round production, \$24.9 Million as compared to \$22.3 Million.

*Employment Impacts*

- The employment impacts would be higher for filleting by approximately 100 FYEs, 895 FYEs for filleting versus 795 FYEs for whole round.

The impact of small fish on viability is also an issue for filleting of redfish. Under good market conditions for fillets, this treatment would provide the best economic impacts on an overall basis when considering GDP, labour incomes and employment. However, whole round also provides impacts which are not significantly less and this treatment is a good alternative when fillet prices are depressed or small fish impact on viability. In 2006, a total of 14 exemptions were allowed for redfish and continuation of this practice is reasonable.

**Economic Model**

**Redfish**

<b>Quota 2006:</b>	27,352 MT	Adjusted for gut loss: 0%
	60,300,219 lbs	60,300,219

<b>ECONOMIC INDICATORS</b>	<b>Product Type</b>	
	<b>Frozen Fillets</b>	<b>Whole Rd</b>

**Economic Indicator - GDP**

<b>Harvesting</b>		
<b>Harvesting GDP</b>	\$6,089,959	\$6,089,959
<i>Indirect Impacts Multiplier</i>	1.31	1.31
<i>Induced Impacts Multiplier</i>	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	8.40%	8.40%
<b>Total Harvesting</b>	<b>\$10,527,427</b>	<b>\$10,527,427</b>
<b>Processing</b>		
<b>Return to Processors</b>	\$5,473,492	\$6,634,975
<b>Direct Processing Labour</b>	\$7,463,895	\$6,315,604
<b>Total</b>	<b>\$12,937,387</b>	<b>\$12,950,579</b>
<i>Indirect Impacts Multiplier</i>	1.81	1.81
<i>Induced Impacts Multiplier</i>	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	7.27%	7.27%
<b>Total Processing</b>	<b>\$30,716,693</b>	<b>\$30,705,423</b>
<b>Total Harvesting + Processing GDP</b>	<b>\$41,244,120</b>	<b>\$41,232,850</b>

**Economic Indicator - Labour Income**

<b>Harvesting</b>		
<b>Labour Income</b>	\$4,997,400	\$4,997,400
<i>Indirect Impacts Multiplier</i>	1.24	1.24
<i>Induced Impacts Multiplier</i>	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	8.40%	8.40%
<b>Total Harvesting</b>	<b>\$8,212,035</b>	<b>\$8,212,035</b>
<b>Processing</b>		
<b>Direct Processing Labour Incomes</b>	\$7,463,895	\$6,315,604
<i>Indirect Impacts Multiplier</i>	1.69	1.69
<i>Induced Impacts Multiplier</i>	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	7.27%	7.27%
<b>Total Processing</b>	<b>\$16,673,200</b>	<b>\$14,108,092</b>
<b>Total Harvesting + Processing Labour Income</b>	<b>\$24,885,235</b>	<b>\$22,320,128</b>

**Economic Indicator - Employment**

<b>Harvesting</b>		
<b>Direct Harvesting Labour - FyEs</b>	117.0	117.0
<i>Indirect Impacts Multiplier</i>	1.58	1.58
<i>Induced Impacts Multiplier</i>	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	8.40%	8.40%
<b>Total Harvesting</b>	<b>244.9</b>	<b>244.9</b>
<b>Processing</b>		
<b>Direct Processing Labour - FyEs</b>	325.8	275.7
<i>Indirect Impacts Multiplier</i>	1.51	1.51
<i>Induced Impacts Multiplier</i>	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	7.27%	7.27%
<b>Total</b>	<b>650.2</b>	<b>550.2</b>
<b>Total Harvesting + Processing Employment</b>	<b>895.1</b>	<b>795.1</b>

*Turbot*

The Minimum Processing Requirements for turbot have been adjusted to reflect market preferences, currently allowing for headed and gutted and packaged in fresh or frozen form. The economic analysis on turbot presented on the following page considers fillets, H&G and HOG as the potential product forms. The results of this analysis are as follows:

*GDP Impacts*

- Filleting of turbot, although providing the highest level of direct processing labour, is uneconomic for processors. The total GDP for filleting is \$21.0 Million;
- H&G provides a reasonable return to processors and the overall highest level of GDP impact of the three options, which at \$31.7 Million is in excess of \$10 Million more than either of the other treatments; and
- HOG provides less labour inputs and at the market prices utilized in the model, a smaller return to processors than H&G. The total GDP impact for HOG is \$20.9 Million, similar to filleting.

*Labour Income Impacts*

- Filleting would provide a higher level of labour income impacts than either of the other product forms, at \$19.8 Million as compared to \$15.9 Million for H&G and \$14.7 Million for HOG.

*Employment Impacts*

- The employment impacts would also be higher for filleting than the other treatments, at 671 FyEs, as compared to 519 FyEs for H&G and 475 FyEs for HOG.

Although filleting would provide the highest overall level of employment measures impacts, i.e. labour income and employment, this option is currently uneconomic for processors and markets for turbot fillets are limited. The Province has adjusted its treatment requirements to reflect changing market conditions and H&G provides the highest level of GDP impact of those treatments considered. Indications are that some markets prefer HOG product and if this can be reflected in higher prices than H&G, this could result in similar GDP impacts for each of these product forms, although the employment impacts would still be lower.

**Economic Model**

**Turbot**

<b>Quota 2006:</b>	9,307 MT	Adjusted for gut loss: 7%
	20,518,212 lbs	19,081,937

<b>ECONOMIC INDICATORS</b>	<b>Product Type</b>		
	<b>Frozen Fillets</b>	<b>H&amp;G</b>	<b>HOG</b>

**Economic Indicator - GDP**

<b>Harvesting</b>			
<b>Harvesting GDP</b>	\$8,029,837	\$8,029,837	\$8,029,837
<i>Indirect Impacts Multiplier</i>	1.31	1.31	1.31
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	8.40%	8.40%	8.40%
<b>Total Harvesting</b>	\$13,880,802	\$13,880,802	\$13,880,802
<b>Processing</b>			
<b>Return to Processors</b>	-\$2,378,384	\$5,296,530	\$1,192,868
<b>Direct Processing Labour</b>	\$3,997,132	\$2,248,387	\$1,748,745
<b>Total</b>	\$1,618,747	\$7,544,917	\$2,941,613
<i>Indirect Impacts Multiplier</i>	1.81	1.81	1.81
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	7.27%	7.27%	7.27%
<b>Total Processing</b>	\$7,174,149	\$17,836,036	\$6,986,052
<b>Total Harvesting + Processing GDP</b>	\$21,054,951	\$31,716,838	\$20,866,854

**Economic Indicator - Labour Income**

<b>Harvesting</b>			
<b>Labour Income</b>	\$6,589,257	\$6,589,257	\$6,589,257
<i>Indirect Impacts Multiplier</i>	1.24	1.24	1.24
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	8.40%	8.40%	8.40%
<b>Total Harvesting</b>	\$10,827,873	\$10,827,873	\$10,827,873
<b>Processing</b>			
<b>Direct Processing Labour Incomes</b>	\$3,997,132	\$2,248,387	\$1,748,745
<i>Indirect Impacts Multiplier</i>	1.69	1.69	1.69
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	7.27%	7.27%	7.27%
<b>Total Processing</b>	\$8,928,980	\$5,022,551	\$3,906,429
<b>Total Harvesting + Processing Labour Income</b>	\$19,756,853	\$15,850,424	\$14,734,302

**Economic Indicator - Employment**

<b>Harvesting</b>			
<b>Direct Harvesting Labour - FyEs</b>	154.2	154.2	154.2
<i>Indirect Impacts Multiplier</i>	1.58	1.58	1.58
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	8.40%	8.40%	8.40%
<b>Total Harvesting</b>	322.9	322.9	322.9
<b>Processing</b>			
<b>Direct Processing Labour - FyEs</b>	174.5	98.1	76.3
<i>Indirect Impacts Multiplier</i>	1.51	1.51	1.51
<i>Induced Impacts Multiplier</i>	1.30	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	7.27%	7.27%	7.27%
<b>Total</b>	348.2	195.9	152.3
<b>Total Harvesting + Processing Employment</b>	671.1	518.8	475.3

## *Herring*

The Minimum Processing Requirements for herring and other pelagics is salted and packaged in a carton not to exceed 110 kg. or whole packaged in frozen form. The product forms considered in the economic analysis were frozen round, skin-on fillets, cured and fresh round. The results of this analysis, as presented on the following page, are as follows:

### *GDP Impacts*

- At current market prices, the processing of either frozen round, skin-on fillets or cured would appear to be at best marginal and generally uneconomic;
- Fresh round appears to provide a significant opportunity for high returns to harvesters and processors, resulting in a very high GDP impact (\$48.7 Million if the full volume could be directed to this product form/market). However, this is very much a niche, opportunistic market capable of taking only limited volumes when available; and
- From a GDP impact perspective of the three other product forms, skin-on fillets would provide the highest GDP impact (\$12.3 Million) but frozen round is the closest to break-even for processors and would provide a \$11.0 Million GDP impact.

### *Labour Income Impacts*

- Fillet production would provide the highest level of direct processing labour. The levels of processing labour, in raw material terms, are not considered high per lb of raw material for either product form, in comparison to groundfish or shellfish production. The total labour income impact would vary from a high of \$13.8 Million for skin-on fillets, to \$10.3 Million for fresh or frozen whole round, to \$6.9 Million for cured herring.

### *Employment Impacts*

- As with labour income, the employment impacts would be highest for filleting (428 FYEs). This compares to 318 FYEs for frozen round, 212 FYEs for cured and 96 FYEs for fresh round.

The potential to take advantage of opportunistic markets for fresh herring exports could potentially provide opportunities for improved returns for harvesters and processors and overall greater GDP impacts, albeit on expected limited volumes. Filleting appears limited by economics.

**Economic Model**

**Herring**

<b>Quota 2006:</b>	30,000 MT	Adjusted for gut loss: 0%
	66,138,000 lbs	66,138,000 lbs

<b>ECONOMIC INDICATORS</b>	<b>Product Type</b>			
	<b>10 Kg Round</b>	<b>S'On Fillets</b>	<b>100Kg Cured</b>	<b>Fresh Rd</b>

**Economic Indicator - GDP**

<b>Harvesting</b>				
<b>Harvesting GDP</b>	\$1,669,885	\$1,669,885	\$1,669,885	\$6,957,854
<b>Indirect Impacts Multiplier</b>	1.31	1.31	1.31	1.31
<b>Induced Impacts Multiplier</b>	1.30	1.30	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	8.40%	8.40%	8.40%	8.40%
<b>Total Harvesting</b>	\$2,886,652	\$2,886,652	\$2,886,652	\$12,027,716
<b>Processing</b>				
<b>Return to Processors</b>	-\$468,743	-\$2,951,465	-\$2,335,266	\$15,157,253
<b>Direct Processing Labour</b>	\$3,607,828	\$5,195,272	\$2,078,109	\$415,622
<b>Total</b>	\$3,139,085	\$2,243,807	-\$257,157	\$15,572,875
<b>Indirect Impacts Multiplier</b>	1.81	1.81	1.81	1.81
<b>Induced Impacts Multiplier</b>	1.30	1.30	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	5.81%	5.81%	5.81%	5.81%
<b>Total Processing</b>	\$8,126,826	\$9,426,155	\$2,615,782	\$36,655,226
<b>Total Harvesting + Processing GDP</b>	\$11,013,478	\$12,312,806	\$5,502,434	\$48,682,942

**Economic Indicator - Labour Income**

<b>Harvesting</b>				
<b>Labour Income</b>	\$1,370,302	\$1,370,302	\$1,370,302	\$5,709,592
<b>Indirect Impacts Multiplier</b>	1.24	1.24	1.24	1.24
<b>Induced Impacts Multiplier</b>	1.30	1.30	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	8.40%	8.40%	8.40%	8.40%
<b>Total Harvesting</b>	\$2,251,765	\$2,251,765	\$2,251,765	\$9,382,353
<b>Processing</b>				
<b>Direct Processing Labour Incomes</b>	\$3,607,828	\$5,195,272	\$2,078,109	\$415,622
<b>Indirect Impacts Multiplier</b>	1.69	1.69	1.69	1.69
<b>Induced Impacts Multiplier</b>	1.30	1.30	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	5.81%	5.81%	5.81%	5.81%
<b>Total Processing</b>	\$8,032,748	\$11,567,157	\$4,626,863	\$925,373
<b>Total Harvesting + Processing Labour Income</b>	\$10,284,512	\$13,818,921	\$6,878,627	\$10,307,725

**Economic Indicator - Employment**

<b>Harvesting</b>				
<b>Direct Harvesting Labour - FyEs</b>	32.1	32.1	32.1	32.1
<b>Indirect Impacts Multiplier</b>	1.58	1.58	1.58	1.58
<b>Induced Impacts Multiplier</b>	1.30	1.30	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	8.40%	8.40%	8.40%	8.40%
<b>Total Harvesting</b>	67.2	67.2	67.2	67.2
<b>Processing</b>				
<b>Direct Processing Labour - FyEs</b>	126.0	181.4	72.6	14.5
<b>Indirect Impacts Multiplier</b>	1.51	1.51	1.51	1.51
<b>Induced Impacts Multiplier</b>	1.30	1.30	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	5.81%	5.81%	5.81%	5.81%
<b>Total</b>	250.6	360.9	144.4	28.9
<b>Total Harvesting + Processing Employment</b>	317.8	428.0	211.5	96.0



*Mackerel*

The economic analysis for mackerel considered whole frozen and skin-on fillet production. Fresh production of mackerel is not considered a viable alternative given quality considerations. The economic indicators are outlined on the following page and provide the following results:

*GDP Impacts*

- Based on available 2006 market data, whole production would be economic for processors while putting 100% of the quota into fillet production would be uneconomic. As a result, the greatest GDP impact would result from whole production.

*Labour Income Impacts*

- The labour income impacts would be highest for fillet production (\$28.4 Million) as compared to frozen whole production (\$15.5 Million).

*Employment Impacts*

- Fillet production, at 875 FYEs would provide the greatest employment impacts of the treatments considered. Frozen whole production would provide 473 FYEs.

Although fillet production would provide the greatest employment impacts from mackerel, it is also the treatment with the greatest negative economic return for processors. Under market conditions where fillet production becomes viable for processors, this would be the preferred treatment in terms of economic impacts.

**Economic Model**

**Mackerel**

<b>Quota 2006: (based on landings)</b>	42,697 MT
	94,129,806 lbs

	<b>Product Type</b>	
<b>ECONOMIC INDICATORS</b>	<b>10 Kg Round</b>	<b>S'On Fillets</b>

**Economic Indicator - GDP**

<b>Harvesting</b>		
<b>Harvesting GDP</b>	\$6,436,722	\$6,436,722
<b>Indirect Impacts Multiplier</b>	1.31	1.31
<b>Induced Impacts Multiplier</b>	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	8.40%	8.40%
<b>Total Harvesting</b>	\$11,126,860	\$11,126,860
<b>Processing</b>		
<b>Return to Processors</b>	\$1,072,564	-\$15,519,636
<b>Direct Processing Labour</b>	\$3,080,869	\$8,872,901
<b>Total</b>	\$4,153,432	-\$6,646,735
<b>Indirect Impacts Multiplier</b>	1.81	1.81
<b>Induced Impacts Multiplier</b>	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	5.81%	5.81%
<b>Total Processing</b>	\$8,412,664	\$5,619,852
<b>Total Harvesting + Processing GDP</b>	\$19,539,524	\$16,746,713

**Economic Indicator - Labour Income**

<b>Harvesting</b>		
<b>Labour Income</b>	\$5,281,953	\$5,281,953
<b>Indirect Impacts Multiplier</b>	1.24	1.24
<b>Induced Impacts Multiplier</b>	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	8.40%	8.40%
<b>Total Harvesting</b>	\$8,679,630	\$8,679,630
<b>Processing</b>		
<b>Direct Processing Labour Incomes</b>	\$3,080,869	\$8,872,901
<b>Indirect Impacts Multiplier</b>	1.69	1.69
<b>Induced Impacts Multiplier</b>	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	5.81%	5.81%
<b>Total Processing</b>	\$6,859,485	\$19,755,316
<b>Total Harvesting + Processing Labour Income</b>	\$15,539,115	\$28,434,946

**Economic Indicator - Employment**

<b>Harvesting</b>		
<b>Direct Harvesting Labour - FyEs</b>	123.6	123.6
<b>Indirect Impacts Multiplier</b>	1.58	1.58
<b>Induced Impacts Multiplier</b>	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	8.40%	8.40%
<b>Total Harvesting</b>	258.9	258.9
<b>Processing</b>		
<b>Direct Processing Labour - FyEs</b>	107.6	309.8
<b>Indirect Impacts Multiplier</b>	1.51	1.51
<b>Induced Impacts Multiplier</b>	1.30	1.30
<b>EI Adjustment Multiplier (extra induced benefits)</b>	5.81%	5.81%
<b>Total</b>	214.0	616.3
<b>Total Harvesting + Processing Employment</b>	472.9	875.2

*Capelin*

The capelin analysis considered the production of females only and the impact of also including males, as per the new DFA directive. Results are as follows:

*GDP Impacts*

- The ability to achieve a reasonable price for a female/male mix, as achieved in 2006, helps provide greater returns to processors and greater labour incomes than female capelin alone thereby resulting in a significantly higher GDP impact.

*Labour Income Impacts*

- The processing of male and female capelin serves to increase the labour input at the processing level, increasing the labour income impact from \$18 to \$20 Million over females alone.

*Employment Impacts*

- Employment impacts in the processing sector are also increased by including males in the production mix, increasing employment impact by 80 FYEs.

The biggest issues with capelin at present involve logistics and markets, i.e. being able to process the males at the same time as the more valuable females and developing and expanding markets for the high volumes of male capelin to be produced. Positive market results on males provides the opportunity to obtain greater economic and employment impacts from the capelin resource.

**Economic Model**

**Capelin**

<b>Quota 2008:</b>	41,691 MT
	91,911,979 lbs

<b>ECONOMIC INDICATORS</b>	<b>Product Type</b>	
	<b>Females</b>	<b>Male/ Female</b>

**Economic Indicator - GDP**

<b>Harvesting</b>		
<b>Harvesting GDP</b>	\$5,337,470	\$5,337,470
<i>Indirect Impacts Multiplier</i>	1.31	1.31
<i>Induced Impacts Multiplier</i>	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	8.40%	8.40%
<b>Total Harvesting</b>	\$9,226,634	\$9,226,634
<b>Processing</b>		
<b>Return to Processors</b>	\$7,495,864	\$13,060,567
<b>Direct Processing Labour</b>	\$4,851,752	\$5,775,896
<b>Total</b>	\$12,347,616	\$18,836,463
<i>Indirect Impacts Multiplier</i>	1.81	1.81
<i>Induced Impacts Multiplier</i>	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	7.27%	7.27%
<b>Total Processing</b>	\$19,090,810	\$26,864,074
<b>Total Harvesting + Processing GDP</b>	\$28,317,444	\$36,090,708

**Economic Indicator - Labour Income**

<b>Harvesting</b>		
<b>Labour Income</b>	\$4,379,910	\$4,379,910
<i>Indirect Impacts Multiplier</i>	1.24	1.24
<i>Induced Impacts Multiplier</i>	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	8.40%	8.40%
<b>Total Harvesting</b>	\$7,197,338	\$7,197,338
<b>Processing</b>		
<b>Direct Processing Labour Incomes</b>	\$4,851,752	\$5,775,896
<i>Indirect Impacts Multiplier</i>	1.69	1.69
<i>Induced Impacts Multiplier</i>	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	7.27%	7.27%
<b>Total Processing</b>	\$10,838,072	\$12,902,467
<b>Total Harvesting + Processing Labour Income</b>	\$18,035,410	\$20,099,805

**Economic Indicator - Employment**

<b>Harvesting</b>		
<b>Direct Harvesting Labour - FyEs</b>	102.5	102.5
<i>Indirect Impacts Multiplier</i>	1.58	1.58
<i>Induced Impacts Multiplier</i>	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	8.40%	8.40%
<b>Total Harvesting</b>	214.7	214.7
<b>Processing</b>		
<b>Direct Processing Labour - FyEs</b>	211.8	252.1
<i>Indirect Impacts Multiplier</i>	1.51	1.51
<i>Induced Impacts Multiplier</i>	1.30	1.30
<i>EI Adjustment Multiplier (extra induced benefits)</i>	7.27%	7.27%
<b>Total</b>	422.7	503.2
<b>Total Harvesting + Processing Employment</b>	637.3	717.8

## **5.0 MARKET ASSESSMENT**

A detailed market information section was prepared by Mr. John Sackton of Seafood.com, providing for each major species or group of species the following information:

- 1) Discussion of product forms in the world market;
- 2) Discussion of product forms produced in Newfoundland;
- 3) Market prices reflecting current or recent market conditions;
- 4) Trends in product forms, and factors that impact the value of various product forms; and
- 5) A discussion of whether current minimum processing requirements are aligned with market demands.

With this information, the value of various product forms was applied to the model to provide guidance and an estimate as to whether current regulations reflect current market conditions. A copy of this detailed analysis is provided as Appendix 7.

The following pages provide a summary of the primary market factors and related considerations for each species considered in this report.

### **5.1 Snow Crab**

- The primary market for crab remains in the section form;
- Meat production profitability is directly linked to raw material price and quality;
- Most producers do not have the capital in place to produce meat;
- Exports of lower quality sections to China continue given their low production costs and high yields in meat removal;
- US markets for meat are limited;
- Taste in crab meat produced in Newfoundland continues to be a problem (as compared to hand-picked meats);
- In some cases, in order to comply with MPR's, low quality products not suitable for section markets are produced into snap and eat, or claws and other meat products;

### ***Review of Minimum Processing Requirements***

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- Small crab sections (3-5 oz.) produced in 30 pound packs are valued at \$0.45/lb US less than 5-8 oz. sections;
- 2 pound retail boxes have traditionally used 3-5 oz. sections and have sold at 5-8 oz. prices. The \$0.45/lb price differential includes all packaging material, labour and other expenses in producing a 2 pound retail pack. Given high packaging costs and additional labour, processors realize no real benefit in some instances. However additional labour is positive for the province from an employment perspective;
- Markets for the 2 pound retail pack are strong;
- The perception of processors is that there are inconsistencies in the enforcement and penalization of the 10% value added requirement for processors;
- Labour shortages developing in the Newfoundland and Labrador processing sector in some areas may make value added production more difficult;
- Small to medium size processing operations feel disadvantaged with respect to the 10% rule as they are limited to relatively low production levels and want to maximize the return on their limited supply;
- The 10% figure is not derived on a specific formula or rationale, therefore it is subject to debate and resistance;
- Production of snap and eat and two pound retail packages add labour to existing operations. There are approximately 30 additional jobs when producing these product forms. However, since only smaller 3.75 to 4 inch crab are used, this additional employment is only relevant to 10% to 15% of the available processing time;
- Markets should dictate product form in most cases. Policy should somehow be linked to variable market demand; and
- 15 % section restriction should be removed permanently from the regulations, given that in excess of 90% of total production is now produced into sections

### ***Snow crab summary***

The Minimum Processing Requirements for snow crab result in increased work hours for processing employees in snap and eat, 2 pound retail, and claw and meat production. In excess of 300 additional jobs (10 – 15 people) are possible when these requirements are met. However, meat production is

limited given existing markets, available capital in plants, and poor economics at high raw material prices. Also, processor margins may not be high enough to pay for the additional labour costs associated with value added production in cases where markets for meat or small crab are depressed, leading some producers to produce at less than the 10% requirement.

## **5.2 Shrimp**

- Newfoundland and Labrador shrimp industry remains in a growth stage with respect to improving harvesting and processing technologies;
- Overall shrimp supply globally is high;
- Farmed shrimp is a largest competitor given availability, low price and consistent quality;
- MPR's that all product must be cooked and peeled may impact available returns when markets for shell-on product are strong;
- Sales of cooked and peeled shrimp have been strong despite low prices for harvesters and processors;
- 150,000,000 pounds landed in 2006;
- Plants that do not have shrimp processing licenses would like to produce limited quantities of shell on shrimp when market opportunities arise. They would also like to purchase shrimp from their crab fishermen;
- Current annual production per plant (10 to 12,000,000 pounds) is critical for workers that require at last 12 to 14 weeks of employment, there is no room for adding additional processing capacity; and
- Shrimp is generally 4 to 7 days old prior to processing for inshore plants, whereas shrimp are only 2 to 3 hours old prior to processing on factory freezers. This impacts on the ability to produce other product forms, other than cooked and peeled.

### ***Shrimp summary***

The policy requiring all shrimp to be cooked and peeled is relevant in today's fishery. The current MPR reflects the realities of our harvesting structure with respect to vessel size and capabilities as it relates to quality. It is challenging to compete with the offshore shell-on shrimp industry given the

age/quality of Newfoundland and Labrador inshore shrimp, i.e. 5 to 7 days before being processed as compared to 3 hours. MPR's for shrimp may require a review in the future if new product forms are successfully developed and raw material quality issues are addressed.

### **5.3 Cod**

- Strong markets exist for premium product forms, however quality is a large problem in producing these product forms;
- Cod block consisting of lower quality fillets continues to be a high percentage of production;
- Salt cod markets are relatively strong, problems exist for marketing of small fish;
- Headed and gutted fish is mainly destined for fresh markets and further processing outside Newfoundland and Labrador;
- Limited feasibility in secondary processing under current conditions;
- Unregulated seasons result in landing gluts and severe quality problems;
- Exporting of whole fresh cod is problematic given quality concerns, additional time and temperature increases will further deteriorate quality and efforts to truck cod out of the province have failed in the past;
- Existing fillet form is acceptable given that markets remain relatively strong;
- Split and salted fish markets are relatively strong, however the labour component is lower than filleting operations;
- A majority of processors have no interest in producing cod given the lack of remaining processing infrastructure, labour and technology. They have effectively shifted to the shell fish industry;
- Landing quantities are low and dispersed over large geographic regions resulting in low quality and high production costs. Given recent stock status reports indicating low productivity, this problem is not expected to improve; and
- There have not been a significant amount of requests to change the existing policies with respect to cod.



### *Cod Summary*

There is no real requirement to change the existing policy for cod given existing markets. Demand for exemptions is not high in this sector. However, there is an immediate need to improve quality given that most landed fish is grade B or less.

#### **5.4 Yellowtail**

- 15% left in water in 2005 for Atlantic Canada, vast majority left unharvested in 2006;
- Production is 50% in fillet form and 27 % head on and gutted. This is especially relevant for small flatfish;
- Not feasible to fillet small yellowtail;
- Large fillets are easy to sell;
- May be feasible to fillet a portion of the catch;
- There are no producers in Newfoundland willing to produce yellowtail;
- FPI had offered the product to other processors with no success;
- One third of the catch represents 150-250 gram fish producing 1.5 to 2.0 oz. fillets, which are used almost entirely in breaded and battered products;
- Secondary processors cannot pay premium prices for raw material;
- There is a \$0.80/lb US price difference between 1.5 to 3 oz. (\$2.10 per pound) and larger 5 to 8 oz. fillets (\$2.90 per pound);
- There are no existing filleting technologies designed to process small yellowtail;
- The quota are not taken as a result of processing losses, therefore a significant amount of harvesting and processing positions are lost; and
- China have become experts in producing small low cost, high quality Yellowtail, partly because they also have huge volumes of yellowfin sole they process in the same plants.

#### *Yellowtail summary*

The existing policy prohibiting the exportation of whole round Yellowtail is resulting in a significant labour loss given the processors decision not to harvest or buy the raw material. China has become

a dominant competitor for filleting small flounder such as Yellowtail and yellowfin sole, because they can do it by hand and have a low enough labour cost to deal with the low throughput. Newfoundland processors cannot be competitive on small fillets.

## **5.5 Redfish**

- 15% left in water in 2005 for Atlantic Canada;
- China can process much cheaper;
- Fillet production accounts for 27% while 66% is whole or dressed for US imports;
- Under 300 gram fillets are difficult to sell. Marketing is a large problem for this size;
- Occasional spot or niche markets exist for small fillets;
- Strong market for whole redfish in China and Korea;
- Japan has strong market for H & G redfish;
- There are no automatic filleting machines that are capable of processing small redfish;
- A small fish with lower yield is of considerably less value per pound to a processor than the same fish, larger and with higher yield;
- In some years the entire redfish quota is not harvested due to limited demand by processors;
- Hand cutting small redfish is labour intensive and can result in yield loss especially for fish under 300 grams; and
- Some areas that contain redfish species historically have not shown any significant growth in the size of the fish. Therefore, markets can continue to expect small fish in the future.

### ***Redfish summary***

The price differential between fillets and whole round redfish, \$2.25 US per pound versus \$1.30 US per pound is significant. Markets for large fillets are readily available, however, small redfish fillets are difficult to sell. There are limited spot or niche markets for small fillets that are subject to variable market demand. Given that the majority of redfish are quite small, marketing in the fillet form will remain difficult into the future. The existing policy stating that all redfish must be filleted may not be realistic given raw material size and market dynamics and demand.

## **5.6 Turbot**

- There is an extremely small market for turbot fillets;
- Turbot fillet production is not feasible under current market conditions;
- Headed and gutted is the main product form in demand by the market;
- Turbot head production can be quite lucrative when prices are high;
- Markets remain strong for frozen at sea turbot; and
- Plant frozen turbot has a reputation for low quality in some cases.

### *Turbot summary*

The existing policy requiring all turbot to be headed and gutted and packaged in fresh or frozen form meets existing harvesting, processing and marketing realities. There is no real demand for changes or exemptions. In its present form it achieves the target of benefit maximization for the province from a market perspective.

## **5.7 Herring**

- Limited markets exist for salt herring;
- Markets for whole or fillets are also low;
- Other countries have large supplies of herring species at competitive prices;
- Limited market for fresh herring;
- Herring are a relatively cheap fish, therefore high volume production is critical;
- There has not been any significant interest by harvestors to land herring in jurisdictions outside the province; and
- Markets for bait periodically offer premium prices for relatively low volumes.

### *Herring summary*

The existing policy stating that herring must be salted and packaged in a carton not to exceed 110 Kg.; or whole packaged in whole form generally is in line with market requirements and does not

negatively effect the vast majority of Newfoundland and Labrador processors. With the exception of a few niche markets, there is no real need to alter the policy. However, in the presence or lucrative spot or niche markets, exemptions may remain a viable option.

## **5.8 Capelin**

- Market for female capelin is relatively strong;
- Markets for male capelin continue to expand;
- Processing both females and males remains a significant challenge from a logistics perspective;
- Short seasons and unregulated landings make production of males difficult;
- While industry generally supports full utilization, it does not want to forego profits realized in the production of females;
- Many capelin producing operations in Newfoundland and Labrador cannot produce large quantities of product; therefore it is important that those product forms that yield the highest return be produced. In the event that seasons were spread out, these producers would readily increase production of male capelin;
- No dumping policies are positive for the province as long as the infrastructure is in place to support it, i.e. enough capacity to handle the fish when landed or extending the season to ensure the fish can all be properly processed;
- The labour component of capelin processing is significant, especially in terms of subsidizing other part time employment in the fishery and other industries. This species also contributes significantly to the harvesting sector over a short timeframe.

### ***Capelin summary***

The existing policy, that capelin must be salted and packaged in a carton not to exceed 110 Kg.; or whole packaged in whole form is in line with market requirements and does not effect the majority of harvesting or processing operators. New requirements for 100% utilization of both females and males does however offer a challenge to small and medium operations in terms of logistics.

Efforts to spread out landings over longer periods through opening dates and landing restrictions in conjunction with the Department of Fisheries and Oceans would help ensure the net benefit to the Province is maximized.

## **5.9 Mackerel**

- Mackerel has provided a significant injection into the Newfoundland economy in recent years;
- Mackerel requires processing within relatively short time frames due to relatively quick spoilage;
- Large landings often result in decreased quality. High landings are difficult to change given the difficulty in catching these fish. Harvestors may spend weeks searching before realizing success;
- Markets remain stable for the whole frozen form;
- Limited demand for fillets or smoked products; and
- Quality remains a challenge especially in the presence of acidic feeds in the stomach cavity.

### *Mackerel summary*

The existing policy, that mackerel must be salted and packaged in a carton not to exceed 110 Kg.; or whole packaged in whole form is in line with market requirements and does not effect the majority of harvesting or processing operators. The current Minimum Processing Requirements do not negatively affect industry.

## **6.0 RECOMMENDATIONS**

Based on the information and analysis presented in the preceding sections of this report, the following pages detail the recommendations regarding the Province's Minimum Processing Requirements system and the treatments assigned to each species.

### ***6.1 Recommendations***

The Provincial government, through the Department of Fisheries and Aquaculture, has three primary options with respect to its Minimum Processing Requirements system. These options are:

- To maintain the current system as is, i.e. the status quo; or
- To eliminate the system, possibly using a phasing-out approach over a period of time, removing any impediments it may present and placing the decisions on product form solely in the hands of industry; or
- To improve and streamline the current Minimum Processing Requirements system, updating the minimum treatments to be more in line with current realities and putting in place a transparent and responsive exemption request system.

#### **6.1.1 System Recommendations**

The full removal of the Minimum Processing Requirements system, although endorsed by a majority of processors and their representatives, has not received full support and would remove a form of legislative leverage that the Province has over the industry. In addition, in most cases the current system is not viewed as major impediment to industry, especially in terms of the other issues faced in industry restructuring. Deregulation such as this could also lead to further changes, such as opening the industry to outside buyers, which is not supported by processors. As a result, at this time the study team is recommending the following:

- *It is recommended that the Provincial Department of Fisheries and Aquaculture maintain its Minimum Processing Requirements system, either maintaining the status quo or preferably implementing required changes to improve and streamline the system.*

Maintaining the status quo is a viable alternative for the MPR system, given that it has generally not been viewed as a high priority by industry and that, where required, exemptions have enabled industry to take advantage of market shifts or opportunities. Longer term market shifts have been recognized by the Department through changes in treatment requirements, as has happened for snow crab and turbot. Although the system has generally worked, there are changes that can be made to improve its operation and effectiveness.

The following paragraphs outline the recommended changes required to update and improve the Minimum Processing Requirements system.

#### *New Guiding Principles*

- *It is recommended that the revised Minimum Processing Requirements system utilize the following guiding principles:*
  - *Balance - The system should strive to find a balance between optimizing market returns and labour inputs in establishing minimum treatments. Where the value of additional market returns exceed the value of additional labour inputs for a processing treatment, this should prevail and vice versa;*
  - *Efficiency - The system must be efficient and streamlined, to minimize the potential for negative impacts and for lost market opportunities;*
  - *Transparency - Since the system applies to the full processing sector in the Province, there should be transparency in any changes and exemptions; and*
  - *Viability - As a principle, the system should not result in imposing treatments that are not economically viable for processors or harvesters.*

#### *Update Regulations*

- *It is recommended that current regulations be updated to remove out-of-date requirements, such as Section 35 of the Fish Inspection Regulations on the semi-processing of crab.*

#### *New Exemption Process*

A new exemption evaluation process is required to ensure efficiency and transparency. Following are the recommendations regarding this new process.

- Board or Panel - Rather than continuing with internal decision making by the Department, establishing an independent Board, Panel or Committee, as is the case with other major decisions, would be the preferred option for transparency purposes. *It is recommended that a new exemption request Board, Panel or Committee be established to hear and make recommendations on exemption requests. A Board (established similar to the Fish Processing Licensing Board), a Panel (established similar to the Standing Fish Price Setting Panel) or an independent Committee should be established, with a mandate to receive, assess and provide recommendations on exemption requests. Given that efficiency and a rapid response to exemption requests is key, a Standing Panel or Committee may be the preferred option.*
- Two Tiered Request System - *It is recommended that in addition to the existing system where individual processors are able to make exemption requests for their own operations, a new tier of requests be established such that recognized processor representatives (ASP or SPANL) will have the ability to submit industry-wide or member-wide exemption requests (for fundamental market shifts such as snow crab to sections or turbot to H&G).*
- Efficiency - To minimize potential detrimental impacts and avoid missed market opportunities, it will be paramount that the new system work efficiently and expediently. The onus will be on processors and their representatives to submit requests as soon as possible. Where possible, the submission of requests prior to the fishing season would be the preferred option, to ensure requests are dealt with in a timely manner. *It is recommended that the new review Board or Panel be given a timeline for response of a maximum of five business days for individual requests and 15 business days for requests from processor organizations.*
- Transparency - Transparency involves ensuring that stakeholders are made aware of requests under the system and have the opportunity to provide input. *It is recommended that a Notice of Receipt of Exemption Requests be distributed to stakeholders (ASP and SPANL for their members, FFAW) as soon as possible after the receipt of the exemption request. Stakeholders are to be provided with a limited timeframe (24 to 36 hours) to provide a written response to the Board or Panel on*



*the exemption request in question.*

- Documentation - *It is recommended that those requesting exemptions be required to provide written documentation supporting their request, i.e. illustrating that the requested product form will provide greater benefits than the minimum prescribed treatment and/or that the minimum prescribed treatment is not economically viable.*
- Access to Information - *It is recommended that the Board or Panel have ongoing access to up-to-date market intelligence, from internal DFA or external sources, to aid in their decision making.*

#### *Future Review*

The current industry renewal process is expected to lead to significant changes in the fishing industry in coming years. Changes such as the lifting of vessel length restrictions and improved raw material quality could impact on the Minimum Processing Requirements system. *It is recommended that a further evaluation of the Minimum Processing Requirements system be undertaken in two to three years, to assess the impact of industry renewal.*

#### **6.1.2 Species Recommendations**

Based on the economic analysis and stakeholder input provided in this report, following are the recommendations regarding the Minimum Processing Requirements treatments on a species basis.

##### *Snow crab*

The economic analysis of snow crab presented in Section 4 indicates that when raw material prices are at a low level (<\$1.20/lb), the GDP impacts are highest for meat production. At higher prices, section production provides the greatest GDP impacts. Employment impact measures such as labour income and employment would be highest under meat production and other value-added measures.

The market for snow crab continues to primarily be a section market, at around 95-98% of production. *It is recommended that the base treatments for snow crab be maintained, i.e. sectioned or whole cooked.*

The current “value-added” requirement is not achieving the desired results in all cases, as some

processors are choosing to take the penalties for not reaching the 10% minimum rather than producing uneconomic or less valuable product forms. However, the 10% requirement does serve to increase the employment impacts in the snow crab sector. To continue with labour-added requirements for the snow crab sector, the current measurement system (% of raw material) should be addressed. Under the current system, product forms such as crab au gratin which require high labour input but minimal raw material are not fairly handled. *It is recommended that under the labour-added treatment component for snow crab, that preferential weighting be given to product forms requiring higher labour inputs.*

#### *Other crab*

There have not been any exemption requests for other crab species, whose minimum treatment is for cooked and meat extracted. This treatment requirement provides for a high level of labour input. *It is recommended that the current requirement be maintained for other crab and that any exemption request for sections by processors must be able to demonstrate quantitatively that the market differentials are such that the overall processing GDP benefits (return to processors + direct labour inputs) are greater than for the current allowed treatment, meat extraction.*

#### *Shrimp*

The current requirement requires all shrimp to be cooked and peeled. Costing and labour data is not available on raw or shell-on product forms to determine whether they offer viable alternatives in terms of benefits to the Province. Development of these product forms is also currently limited by intrinsic quality issues with shrimp landed dockside and by further research and development requirements. Developing new product forms could be a positive, to redirect some of the supply from the oversupplied C&P markets. *It is recommended that the current minimum requirement for shrimp be maintained but that future consideration be given to other product forms (for existing processors) when quality and R&D issues are addressed and when it can be demonstrated that these product forms can provide socio-economic returns equivalent to or greater than cooked and peeled.*

#### *Cod*

The Minimum Processing Requirement for cod and most other groundfish species is filleted or split and salted. The economic analysis for cod considered the treatments of fresh or frozen filleted, split and salted, and HOG. Overall GDP impact was highest for the existing treatments, with HOG

significantly lower. In terms of employment impact measures, filleting would provide the greatest impact in terms of both labour incomes and employment, while HOG would provide the lowest impacts under these measures. *It is recommended that the current Minimum Processing Requirement treatments for cod be maintained.*

#### *Yellowtail flounder*

Yellowtail flounder are subject to the same MPR treatments as cod. The economic analysis on Yellowtail flounder considered the alternate product forms of fresh or frozen fillets and whole round production. This analysis indicates that the economics of Yellowtail flounder production are currently very poor, with negative returns to processors for each product form. From an economic impact perspective, filleting has the potential to provide significantly greater economic impacts than whole round production, but such impacts can only be achieved if the Yellowtail are economic to process.

#### *Redfish*

Redfish are also subject to the same Minimum Processing Requirements as cod and Yellowtail flounder. The analysis on redfish considered two product forms, frozen fillets, which is an approved treatment under the MPR system, and whole round, which is not an approved treatment. Under good market conditions for fillets, this treatment would provide the best economic impacts on an overall basis when considering GDP, labour incomes and employment. However, whole round also provides impacts which are not significantly less and this treatment is a good alternative when fillet prices are depressed or small fish impact on viability. *It is recommended that exemptions for whole round redfish continue to be provided when market conditions for fillets are poor.*

A major deterrent to viability for both Yellowtail flounder and redfish is that the resource intrinsically includes a significant portion of small fish which is generally uneconomic to process in the province. As a result, in the case of Yellowtail most of the fish was left in the water in 2006, generating no economic benefit for the province. *It is recommended that consideration be given to a small fish protocol exemption, where processors have the ability to sell unprocessed small fish (which can't be economically processed in the province) to external buyers, helping to improve the viability of processing the remaining larger fish. Given fluctuations in markets and costs, the fish size exemption for each species should be established on an annual basis, possibly through a*

*submission from the industry representatives.*

### *Turbot*

The Minimum Processing Requirement for turbot is headed and gutted and packaged in fresh or frozen form. The economic analysis for turbot considered fillets, H&G and HOG as potential product forms. Although filleting would provide the highest overall level of employment measures impacts, i.e. labour income and employment, this option is currently uneconomic for processors and markets for turbot fillets are limited. The Province has adjusted its treatment requirements to reflect changing market conditions and H&G provides the highest level of GDP impact of those treatments considered. Indications are that some markets prefer HOG product and if this can be reflected in higher prices than H&G, this could result in similar GDP impacts for each of these product forms, although the employment impacts would still be lower. *It is recommended that consideration be given to the inclusion of the head-on gutted product form in approved treatments, to be consistent with market demands.*

### *Monkfish*

The current requirement for monkfish is for filleted; tails; or headed and gutted in frozen form. Exemption requests have been made for head-on. *It is recommended that consideration be given to the inclusion of the head-on gutted product form to be consistent with market demands.*

### *Herring, mackerel or capelin*

The current Minimum Processing Requirement for pelagics is for salted and packaged in a carton not to exceed 110 kg. or whole packaged in frozen form. For capelin, in 2006 a new directive was implemented requiring the processing of males as well as females.

The product forms considered in the economic analysis for herring were frozen round, skin-on fillets, cured and fresh round. The potential to take advantage of opportunistic markets for fresh herring exports could potentially provide opportunities for improved returns for harvesters and processors and overall greater GDP impacts, albeit on expected limited volumes. Filleting for herring appears to be limited by poor economics, although this product form would provide the greatest employment impacts.

## Review of Minimum Processing Requirements

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The economic analysis for mackerel considered whole frozen, skin-on fillets and fresh mackerel. Although fillet production would provide the greatest employment impacts from mackerel, it is also the treatment with the greatest negative economic return for processors. The availability of fresh markets at higher prices could provide higher GDP returns but lessen the employment impacts achieved by the Province.

*It is recommended that the current treatments for pelagics be maintained but that consideration be given to exemption requests for fresh market opportunities where the increase in value and GDP impacts will exceed the loss in processing labour.*

The economic model for capelin shows that the ability to achieve a reasonable market return from male capelin will help to increase the overall economic and employment impacts from this fishery. *It is recommended that the new directive on processing male capelin be maintained and that the province support efforts to improve the logistics of the fishery to enable industry to maximize the utilization and market value of these males.*

### *Lobster*

At present, lobster can be shipped out live meaning that there is no minimum treatment required. One company indicated that they would be willing to provide further processing in the province, adding significant labour inputs. It is not clear whether this would result in reduced value to harvesters. *Based on current information, it is recommended that the current policy on lobster be maintained.*

### *Whelk*

*It is recommended that the current Minimum Processing Requirement for whelk, i.e. whole frozen, be maintained.*

**Appendix 1**

**Exemption Request Form**

**EXEMPTION REQUEST**

\_\_\_\_\_  
**DATE**

**FROM**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Attn: Licencing Administrator**

We hereby request approval from your department for the production and/or export of

\_\_\_\_\_ in \_\_\_\_\_  
**(Species) (Form of Product to be shipped)**

and will be packaged as follows \_\_\_\_\_

\_\_\_\_\_  
**(Amount of Product)**

This Product will be shipped to \_\_\_\_\_ between the dates of \_\_\_\_\_  
**(Destination)**

and \_\_\_\_\_ and will be prepared and shipped from our \_\_\_\_\_  
**(Plant Location)**  
facility.

We understand that the product must meet the inspection requirements of the Canadian Food Inspection Agency and that the Licencing Division of your Department is notified of any shipments at least 24 hours prior to the above product leaving this processing facility.

\_\_\_\_\_  
**(Signature)**

\_\_\_\_\_  
**(Phone)**

**Appendix 2**

**Exemptions - 2001-2006**



Section 4, Fisheries Act

EXEMPTIONS

2001	Company	Species	Description	Source Of Raw Material	Requested Amount (lbs)	Shipped Amount (lbs)	Destination
19/10/2001		Cod	Head on Guttid	Aquaculture	40,000		Canada
31/10/2001		Cod	Head on Guttid	Aquaculture	140,000		Canada
24/08/2001		Flounder	Head on Guttid		100,000		Taiwan
24/08/2001		Flounder	Head on Guttid		100,000		Taiwan
31/12/2001		Flounder	Head on Guttid		4,400		Nova Scotia
		Yellowtail	Bait		22,000		Nova Scotia
07/12/2001		Haddock	Headed and Guttid		60,000	84,984	Boston
07/05/2001		Hake	Headed and Guttid		7,000		Boston
29/05/2001		Hake	Headed and Guttid		5,000		Boston
16/08/2001		Hake	Headed and Guttid		40,000		Nova Scotia
26/09/2001		Hake	Headed and Guttid		2,000		Boston
16/08/2001		Pollock	Headed and Guttid		15,000	15,691	Nova Scotia
26/02/2001		Turbot	Round		40,000	0	US

Section 4, Fisheries Act

2002	Company	Species	Description	Source Of Raw Material	Amount (lbs)	Shipped Amount (lbs)	Destination
17/10/2002		Cod	Head on Guttid	Aquaculture	40,000		France
17/10/2002		Cod	Head on Guttid	Aquaculture	20,000		US
23/10/2002		Cod	Head on Guttid	Aquaculture	15,000		Spain
24/10/2002		Cod	Head on Guttid	Aquaculture	28,000		Canada
24/10/2002		Cod	Head on Guttid	Aquaculture	28,000		US
24/10/2002		Cod	Head on Guttid	Aquaculture	85,000		Canada
02/11/2002		Cod	Head on Guttid	Aquaculture	16,000		US
20/11/2002		Cod	Head on Guttid	Aquaculture	20,000		US
27/11/2002		Cod	Head on Guttid	Aquaculture	20,000		US
03/12/2002		Cod	Head on Guttid	Aquaculture	20,000		US
18/07/2002		Flounder	Head on Guttid		100,000	840,143	US
10/06/2002		Haddock	Headed and Guttid		12,000		Boston
19/07/2002		Haddock	Head on Guttid		15,000		US
10/06/2002		Hake	Headed and Guttid		1,000	42,103	Boston

Section 4, Fisheries Act

17/06/2002		Monkfish	Head on Gutted		50,000	Taiwan
09/07/2002		Monkfish	Whole Round		250,000	Hong Kong
01/08/2002		Monkfish	Head on Gutted		750,000	Taiwan

Section 4, Fisheries Act

2003	Company	Species	Description	Source Of Raw Material	Amount (lbs)	Destination
03/01/2003		Cod	Head on Gutted		20,000	US
02/12/2003		Cod	Head on Gutted	Aquaculture	20,000	US
08/07/2003		Flounder	Whole		150,000	US
16/05/2003		Flounder	Whole		50,000	US
08/01/2003		Greysole	Whole		240,000	US & China
09/05/2003		Redfish	Whole		1,000	US
14/05/2003		Redfish	Whole		50,000	US

Section 4, Fisheries Act

2004	Company	Species	Description	Source Of Raw Material	Amount (lbs)	Destination
23/02/2004		Flounder	Whole		150,000	US
23/02/2004		Greysole & Yellowtail	Round		375,000	US & China
06/10/2004		Yellowtail	Head on Gutted (400gr.)		750,000	US & China
29/11/2004		Yellowtail	Head on Gutted (400gr.)		500,000	US & China
23/02/2004		Haddock	Head on Gutted		50,000	US
23/02/2004		Haddock	Whole		50,000	US & China
02/08/2004		Redfish	Whole, Frozen	NAFO 3-0	48,000	43,000 Asia
10/12/2004		Sea Urchin	Live		16,000	0 Japan

Section 4, Fisheries Act

EXEMPTION REQUESTS 2005									
Licence Holder	Plant Location	Species Requested	Date Requested	Amount Requested	Approved	Date Approved	Amount Approved	Amount Shipped (Kg.)	
		Greysole	Whole	Up to 20,000 lb/wk	Y	July 13, 2005	No Limit	4,832	
		Hake	Headed & Gutted	100,000 lb.	Y	July 22, 2005	100,000 lb.	32,289	
		Flounder	January 5, 2005	4,000,000 (lb)	N	Not Approved	Not Approved		
		Redfish	June 29, 2005	No Limit	Y	July 22, 2005	No Limit	0	
		Redfish	Business Plan	No Limit	Y	July 5, 2005	No Limit	97,769	
		Redfish	June 9, 2005	No Limit	Y	July 21, 2005	No Limit	39,301	
		Redfish	August 10, 2005	1,000,000 (kg)	Y	August 15, 2005	750,000 (kg)	1,386,010	
		Redfish	October 18, 2005	No Limit	N	Not Approved	Not Approved	0	
		Redfish	July 26, 2005	No Limit	N	Not Approved	Not Approved	95	
		Redfish	July 21, 2005	600,000 kg.	Y	July 25, 2005	600,000 kg.	0	

Section 4, Fisheries Act

EXPORT OF UNPROCESSED FISH 2006

	Company	Plant Location	Species Approved	Product Type	Approved (MT)	Produced (MT)
1			Cod	Steaked	10	10
2			Cod (Aquaculture)	Head-on-gutted	9	0
3			Cod/Hake/Pollock	Split/Pickled/Frozen	450	1
4			Cod/Hake/Pollock	Split/Pickled/Frozen	450	0
5			Greysole	Whole Packaged Frozen	14	0
6			Greysole	Whole Packaged Frozen	28	107
7			Hake	Head-off-gutted	318	0
8			Hake	Head-on-gutted	250	0
9			Herring	Whole salted > 110kg.	454	1
10			Herring	Whole salted > 110kg.	500	108
11			Herring	Whole salted > 110kg.	1,000	265
12			Herring	Whole salted > 110kg.	1,350	520
13			Herring	Whole salted > 110kg.	1,550	1,150
14			Monkfish	Head-on-gutted	50	14
15			Monkfish	Head-on-gutted	100	301
16			Monkfish	Head-on-gutted	12	26
17			Monkfish	Head-on-gutted	100	6
18			Monkfish	Whole Packaged Frozen	100	32
19			Redfish	Head-off-gutted	400	0
20			Redfish	Whole Packaged Frozen	950	244
21			Redfish	Whole Packaged Frozen	500	31
22			Redfish	Whole Packaged Frozen	200	32
23			Redfish	Whole Packaged Frozen	25	0
24			Redfish	Whole Packaged Frozen	900	617
25			Redfish	Whole Packaged Frozen	590	7
26			Redfish	Whole Packaged Frozen	116	15
27			Redfish	Whole Packaged Frozen	250	18
28			Redfish	Whole Packaged Frozen	400	0
29			Redfish	Whole Packaged Frozen	1,700	1,047
30			Redfish	Whole Packaged Frozen	100	0
31			Redfish	Whole Packaged Frozen	2,000	62
32			Redfish (St. Pierre)	Whole Packaged Frozen	900	0
33			Scallop	Shell-on	150	0

Section 4, Fisheries Act

EXPORT OF UNPROCESSED FISH 2006						
	Company	Plant Location	Species Approved	Product Type	Approved (MT)	Produced (MT)
34			Turbot	Head-on-gutted	125	145
35			Turbot	Head-on-gutted	100	16
36			Turbot	Head-on-gutted	160	68
37			Turbot	Head-on-gutted	180	69
38			Turbot	Head-on-gutted	30	30
39			Turbot	Head-on-gutted	190	21
40			Whelk	Whole Frozen	12	0
41			Whelk	Whole Frozen	60	0
42			Yellowtail Flounder	Whole Packaged Frozen	300	59
<b>Totals</b>					<b>17,083</b>	<b>5,022</b>

**Appendix 3**

**Minimum Processing Requirements and Fishing Industry Renewal**

## **CONSISTENCY WITH FISHING INDUSTRY RENEWAL**

This Appendix considers the current Fishing Industry Renewal process in the Newfoundland and Labrador fishing industry and how and where Minimum Processing Requirements fits within that process.

### ***Background***

In May 2006 the Government of Canada and the Government of Newfoundland and Labrador launched the Fishing Industry Renewal Initiative. On May 24, 2006, the Premier's Meeting on the Newfoundland and Labrador Fishery was held in St. John's. The objectives of this meeting were as follows:

- To identify potential solutions to the key challenges in the harvesting, processing and marketing sectors of the fishing industry in 2006 and beyond.
- To identify a strategic direction for the industry, including actions for industry renewal to transform it into a more viable, self-sustaining and competitive industry.

Based on the results of this meeting, a series of Working Committees were established to identify and assess options for policy renewal and restructuring. As well, an Industry/Government Steering Committee was struck to oversee and provide guidance to these Working Committees. Four Working Committees were established in the following areas:

- Harvesting - Policy Renewal and Self-Rationalization;
- Processing - Policy Renewal and Restructuring;
- Collaborative Marketing; and
- Technology and New Opportunities.

The Committees met during June and July 2006 to discuss issues and options regarding industry renewal.

On October 20, 2006 both level of government jointly released the *Canada - Newfoundland and Labrador Fishing Industry Renewal Initiative Discussion Paper*. This Paper summarizes the work of the Working Committees in terms of the Vision and Objectives for renewal and the issues and

options identified by each Committee. The need for industry renewal is summarized in the opening letter signed by Premier Danny Williams, Minister Loyola Hearn and Minister Tom Rideout:

*"...We are at a crossroads due to a combination of external factors and domestic structural challenges. External factors such as increasing global competition from lower cost producers, rising fuel costs and unfavourable exchange rates mean that change is essential.*

*Government and industry must work together to renew our industry. We must work together to create an industry which is more economically viable, internationally competitive and ecologically sustainable over the long term. Our fishery has the potential to be a strong economic driver for our rural regions. We recognize the crucial role of the fishing industry within the province's economic and social structure, particularly in rural areas, but efficiency and competitiveness must be given greater emphasis. There are no quick fixes."*

The Vision and Objectives outlined for the Fishing Industry Renewal Initiative are as follows:

A sustainable, economically viable, internationally competitive and regionally-balanced industry which is able to:

- adapt to changing resource and market conditions;
- extract optimal value from world markets;
- provide an economic driver for communities in vibrant rural regions;
- provide attractive incomes to industry participants; and
- attract and retain skilled workers.

The following pages provide an assessment as to where the current and any future Minimum Processing Requirements system would fit in terms of this vision and objectives and the issues and options outlined by each Working Committee.

### ***Minimum Processing Requirements and Industry Renewal***

The *Discussion Paper* lists Minimum Processing Requirements as one of the Other Policy Issues under Processing - Policy Renewal and Restructuring. This positioning is consistent with the general feedback received from stakeholders, that there were many other issues of higher priority



## ***Review of Minimum Processing Requirements***

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with respect to industry restructuring and renewal. However, an assessment is required to evaluate whether the Minimum Processing Requirements system may impact on the potential to resolve some of the important issues outlined in the *Discussion Paper* or conversely whether solving some of these issues may have an impact on the Minimum Processing Requirements system or its operation.

### ***Vision and Objectives***

The vision of a renewed industry in Newfoundland and Labrador foresees an industry that is economically viable and internationally competitive. The feedback received from industry was that, in some cases, the current Minimum Processing Requirements system impacts negatively on industry's ability to be viable and competitive, by restricting the ability of industry to produce the most viable product forms and by placing restrictions on industry that are not faced by their competition. However, the relatively low number of exemption requests over the past several years would appear to indicate that this is not a significant problem. In addition, issues appear to be limited to a few species, primarily in the groundfish sector with respect to the ability to economically process small fish.

The objectives for the industry appear to represent both sides of the argument in terms of the Minimum Processing Requirements system. The first two objectives, the ability to: adapt to changing resource and market conditions; and extract optimal value from world markets, would appear to favour a system free of regulatory burdens where industry has the ability to adapt quickly to changing market conditions. In contrast, the last three objectives, the ability to: provide an economic driver for communities in vibrant rural regions; provide attractive incomes to industry participants; and attract and retain skilled workers, focus more on employment objectives and favour a strong processing sector providing longer terms of employment to its workers.

### ***Harvesting - Policy Renewal and Self-Rationalization***

The primary issues identified for the harvesting sector in the *Discussion Paper* include:

- Fleet Self-Rationalization;
- Vessel Replacement Policy;
- Restructuring - Shrimp Fishery;

### ***Review of Minimum Processing Requirements***

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- Small Boat Fishery;
- Fleet Separation and Owner/Operator Policies; and
- Other Policy Issues, including: Competitive Fisheries; Expansion/Redirection of Effort; 12-Month Vessel Registration; Freezing At Sea; and the Temporary Vessel Replacement Policy (TVRP).

In terms of the Minimum Processing Requirements system, which applies directly to the processing sector, the harvesting sector feels it is impacted by this policy by taking the brunt of the economic impacts of any restrictions in the form of lower raw material prices.

Issues such as the vessel replacement policy, restructuring of the shrimp fishery and freezing at sea have the potential to impact in this area. A relaxation of the rules on vessel size and/or freezing could add to the ability of the harvesting sector to take its product elsewhere, i.e. land the raw material in the Maritimes if they feel they can get a better price than from the local industry.

A restructured and improved harvesting sector would also lead to improvements in raw material quality, which in many cases is now a determining factor in product forms. Quality improvements could lead to greater opportunities in new or premium product forms, eg: raw and/or shell-on shrimp products, and the Minimum Processing Requirements system needs to have the flexibility to enable industry to take advantage of such opportunities.

### ***Processing - Policy Renewal and Restructuring***

In the *Discussion Paper*, the primary issues identified in terms of Policy Renewal and Restructuring for the Processing sector include:

- Capacity Rationalization;
- Strategic Plants and Regional Balance;
- Recruitment, Retention and Incomes; and
- Other Policy Issues, including: the Minimum Processing Requirement, the Licensing Board and Seasonality.

Serious workforce issues exist in the processing sector. “The processing workforce is aging, with

### ***Review of Minimum Processing Requirements***

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more than 50% being over age 45. Processing employment is also highly seasonal with an average annual earned income of only \$8,000". The rationalization of capacity in the processing sector, in combination with the required changes in the harvesting sector, could improve this situation by reducing seasonality, extending the season over a longer time period leading to higher incomes for those that remain. The Minimum Processing Requirement system is designed to help improve employment opportunities in the processing sector. The restructuring changes envisaged in the *Discussion Paper* have the potential to do more in this area, for those that remain in the industry, than the Minimum Processing Requirement system ever could.

In order to improve the independence and transparency of licensing decisions, an independent Board was established to review applications. Similarly, there are calls from industry for improved transparency in the exemption process under the Minimum Processing Requirement system, potentially requiring a similar Board or independent panel approach.

### ***Collaborative Marketing***

The need for a collaborative marketing approach is highlighted in the *Discussion Paper*. Issues and options identified included:

- Seafood Marketing Institute/Council;
- Marketing Consortia;
- Tariffs; and
- Other Issues.

The ability to collaborate on marketing efforts, in order to garner a greater return from the marketplace, could be impacted by the Minimum Processing Requirement system if it restricts industry's ability to produce those product forms which can garner the greatest returns. Once again, flexibility in the system is required to enable industry to take advantage of market opportunities.

Ongoing market research, to track industry and product trends and opportunities, will be an important component of maximizing market returns. Having this information available on an ongoing basis could also enable the Minimum Processing Requirement system to be more responsive to industry's needs.

***Technology and New Opportunities***

The Technology and New Opportunities Working Committee investigated issues and opportunities primarily related to quality improvements, product development and improved marketing. Issues and opportunities were identified for the shrimp, snow crab and harp seal sectors.

As previously discussed, improvements in quality and marketing could open up opportunities that a flexible Minimum Processing Requirements system could address. Product development, for opportunities such as raw shrimp products could result in new product forms that would have to be considered under the Minimum Processing Requirements system.

**Appendix 4**

**Stakeholder Interview List**

## Interview/Contact List

Section 30 (1), ATIPPA

Name(s)

Organization



Quinlan Brothers  
Barry Group  
Ocean Choice  
Woodman's Sea Products  
Greene's Seafoods  
Fogo Island Coop  
Beothic Fisheries  
Aqua Fisheries  
LFUSC  
P. Janes and Sons  
Quin-Sea  
St. Anthony Seafoods  
Icewater Seafoods  
Deep Atlantic  
Doyle Group  
Gould's Fisheries  
3T's  
Allen's Fisheries  
ASP  
SPANL  
FFAW  
Fish Harvester  
Economic Research & Analysis  
Division, Dept. of Finance

**Appendix 5**

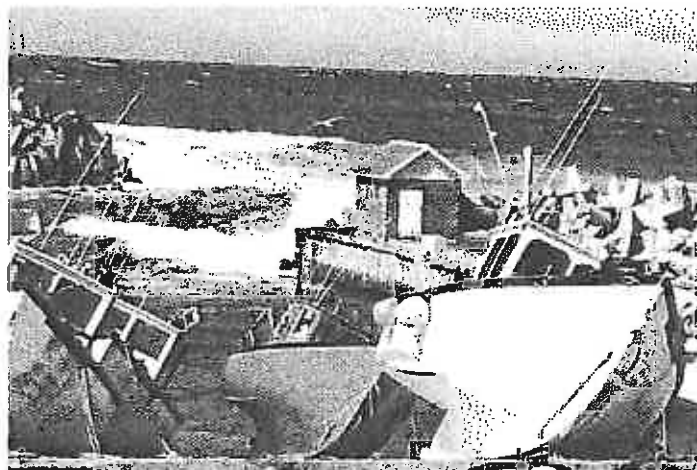
**ASP Paper - Minimum Processing**



**association of  
seafood producers**

# **ASP Paper - Minimum Processing**

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**Prepared by the Association of Seafood Producers  
November 2006  
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## Introduction

On September 13<sup>th</sup>, 2006 the Minister of Fisheries and Aquaculture in the province announced that his department would be conducting a review of the minimum processing policy in place in the province. As the Minister stated,

All minimum processing requirements are intended to maximize the potential benefits of the fishery resource for the residents of this province from both an economic and employment perspective," said Minister Rideout. "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.<sup>1</sup>

The Association of Seafood Producers (ASP) supports this review and is pleased to provide the following paper outlining its position on this matter. ASP, representing some two-thirds of the processing sector in the province by volume and value, would be supportive of a processing regime that focused not on the employment perspective, but on the economics of the industry and the markets in which our products are sold.

We are, in short, in favour of the province adopting a market specification 'minimum processing requirement.' This would allow industry and all stakeholders together to maximize economic return to the province, and increase the overall value of the fishery to the province. This should be the undergirding principle in our fisheries processing policy.

The distinction between this approach and the current policy in place in the province is the definition of what constitutes economic value, and the assumptions held regarding what it means to maximize economic return. This paper will examine the current policy, the rationale and assumptions behind it, and will make the case for a renewed processing policy that positions Newfoundland & Labrador for a more valued fishery.

## Current Policy

Minimum processing is defined as the minimum amount of production required by the Minister to be processed by a processor as found in the *Fish Processing Licensing Policy Manual*.<sup>2</sup> That is,

This requirement stipulates that all fish intended for marketing must be directed into a product form which meets final market specifications. The minimum processing requirements are intended to maximize the potential benefits of the fishery resource for the residents of this province from both an economic and employment perspective.<sup>3</sup>

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<sup>1</sup> <http://www.releases.gov.nl.ca/releases/2006/fishaq/0913n05.htm>

<sup>2</sup> <http://www.fishaq.gov.nl.ca/processing/manual/definitions.pdf#search=%22minimum%20processing%20seafood%20fish%22> Current minimum processing restrictions in effect in the province are in the attached Appendix A.

<sup>3</sup> RFP Minimum Processing Study, August 2006.

The above definition suggests on first reading that final market specifications are satisfactory, but in fact, what that means is not "what the market wants" but instead a final market form acceptable to the province, i.e. with sufficient minimum processing.

The rationale behind the current policy is included in the above. It states that the goal is to maximize the potential benefits. While economics is included, the principle goal has been employment maximization. This is confirmed by recent actions where fish is left in the water rather than have it caught, harvesters paid, and supply sent to market whole.

Annual political intervention leaves the Minister subject to undue pressure in respect of determining public policy on a given matter before him or her. The need for ministerial decisions on exemption applications every year illustrates the weakness inherent in the current system.

We believe that it must be realized that significant work content has in the past been created through intelligent export policy. Very large volumes of flounder, for example, that were exported whole for primary processing in low cost producer countries were returned directly to this province and created meaningful employment in secondary processing in this province. No initial export can mean no subsequent value added production here at home.

## Other Jurisdictions

No other jurisdiction in Canada appears to place minimum processing requirements on processors. Our province is alone in this regard. Other international jurisdictions in competition with Newfoundland & Labrador also do not maintain minimum processing restrictions.

Comparison of Minimum Processing Requirements, various jurisdictions			
Jurisdiction	Minimum processing requirement	Exempt raw material	Additional Exemptions
Newfoundland	Yes	Lobster	By annual ministerial decision only
Nova Scotia	No <sup>4</sup>		
New Brunswick	No		
PEI	No		
Quebec			
British Columbia	No <sup>5</sup>		
Iceland	No		
Norway	No		

<sup>4</sup> No restrictions in Nova Scotia. There may or may have been some restriction on crab in New Brunswick, but I may be confusing that with Newfoundland. I think there are some restrictions in BC vis-à-vis the US. I was involved in some negotiations there some years ago and I think the restrictions are still in place.

<sup>5</sup> With one exception: roe herring is subject to federal export controls. These were put in place following a GATT ruling back in the late 1980s. They would not likely survive an international trade challenge but no one has done this to date.

Nova Scotia, with zero minimum processing requirements, leads the country in production value of its fishery, with the least percentage of secondary processing at just 4.7% in comparison to all other Canadian jurisdictions.<sup>6</sup>

Province	Export Value			
	Primary		Secondary	
	Value (\$Million)	%	Value (\$Million)	%
Newfoundland and Labrador	810	86.7	124	13.3
Prince Edward Island	183	77.3	54	22.7
Nova Scotia	1,173	95.3	58	4.7
New Brunswick	667	75.8	213	24.2
Quebec	161	75.8	52	24.2
Other	1,137	93.6	78	6.4
<b>Total (Canada)</b>	<b>4,132</b>	<b>87.7</b>	<b>578</b>	<b>12.3</b>

*Data Source: STRATEGIS Database, Industry Canada; Fish Processing Policy Review Commission*

**Figure 1 Dunne Report, pg. 93**

Explanations for the relatively low secondary processing may in part stem from primary processing restrictions that limit production and return to value to producers, and limiting investment in secondary processing. This is not assumed, but is a plausible explanation. What is clear is that with one exception (Nova Scotia, with an admittedly sizeable lobster fishery), NL has the lowest secondary processing in the country. It should be noted however on that respect significant portions of both NL and NS's respective fisheries are not suited to secondary processing, but go to market in primary forms (crab represents 47.9% of the value of the NL fishery, and lobster 46% of the NS fishery).<sup>7</sup>

## Rationale/Assumed Benefits

A number of questions must be asked in assessing the rationale and assumed benefits behind the province's current minimum processing policy. What do minimum processing restrictions serve? What assumptions underlie minimum processing restrictions in our province? Have any discernable objectives been achieved? What ultimately is the added benefit in economic value, if any?

<sup>6</sup> The nature of respective fisheries is also a determinant, i.e. shellfish versus pelagic, etc. But the point remains: Newfoundland has the only minimum processing restrictions in the country. Newfoundland's minimum processing restrictions are not, of course, secondary restrictions (that is, minimum processing occurs in the primary production stage).

<sup>7</sup> See table below:

Province	Value	Volume
Nova Scotia	\$1,032 billion	144,266 mt
BC	\$944.97 million	199,392 mt
PEI	\$208.84 million	19,169 mt
NB	\$832.30 million	99,556 mt
NL	\$886.62 million	190,402 mt <sup>7</sup>

In media reports on January 8, 2005, the then-Minister of Fisheries and Aquaculture stated that "... minimum processing requirements protect the province from losing out on valuable labour."<sup>8</sup> That is the underlying assumption to justify minimum processing requirements. That is also acknowledged in the RFP for the Minimum Processing Study noted above.

The Fishing Industry Board 1996 Report "A Policy Framework for Fish Processing" also commented on the export of unprocessed fish and the province's current restrictions, stating that

The rationale for this policy is to restrict the export of unprocessed fish so that the people of this province may maximize employment of their fisheries resources. **These benefits include maximizing employment and also the ability to maximize the Province's return from the resource through the development of value added products.**<sup>9</sup> [emphasis added]

The Auditor General's report in 2005 also noted "It is government policy that fish landed in Newfoundland and Labrador meet minimum onshore processing requirements."<sup>10</sup> The assumed benefits are 'spelled out' in very clear terms. The clear assumption is that minimum processing requirements increase work content.

The 2003 "Jones Report" reported that:

...a number of persons who appeared before me suggested that the solution to the problems that exist in collective bargaining in the fishing industry and in the industry itself was, variously: to repeal the *Fishing Industry Collective Bargaining Act*; to allow the free market to regulate fish prices in this province; to end restricted entry into the fishing industry and allow whomever wishes to have a crab processing licence to have one; and, to end minimum processing requirements for fish and allow outside buyers into the province to compete against local buyers and processors.<sup>11</sup>

More recently, the Dunne Report noted "Products processed beyond the primary or commodity stage are **assumed** to bring greater net-returns, provide higher levels of employment and result in more industrial spin-offs."<sup>12</sup> [emphasis added].

The assumptions underlying the current policy are just that - assumptions - until proven true, or false. The Auditor General's 2005 report referenced above noted that the current policy sometimes reduces value and economic return of a given species to the province. "With respect to the transfer of Atlantic halibut quota," for example, "this species is generally sold fresh into the U.S. market to maximize value, with minimal onshore processing."<sup>13</sup>

In point of fact, marketing products is difficult in the presence of these regulations. Plants can sell 600,000 pounds of snow crab sections. However, processors have to produce 10 % or 60,000 pounds in a different product form that meets minimum

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<sup>8</sup> *The Independent*, January 08, 2005.

<sup>9</sup> FIRB Final Report, November 1996, pg. 14.

<sup>10</sup> <http://www.ag.gov.nl.ca/ag/2005AnnualReport/CH2.07.pdf#search=%22minimum%20processing%20requirements%20newfoundland%22>.

<sup>11</sup> Jones Report, pg. 38.

<sup>12</sup> Dunne Report, pg. 90.

<sup>13</sup> *Ibid.*

processing requirements. This occurs despite an overall revenue loss as a result of additional processing. In the face of a depressed US dollar, global competition - including from the aquaculture sector - and softer markets, this is quite problematic.

Without providing any rationale or background the Jones Report itself concluded:

With respect, I can only say that **In my opinion** these options would create a formula for such social disruption, economic upheaval and foment as has seldom been seen here and would be most unwise against a backdrop of a dwindling or static resource base with the overcapacity and overcapitalization that already exists in the fishing industry.<sup>14</sup> [emphasis added]

Industry and government (both federal and provincial) have clearly said that status quo is not an option, a status quo that already includes social disruption and economic upheaval.

Yet nothing justified the above assumptions which fundamentally say that change would be worse. Again, it is fair to say that the fishery already features an element of chaos that requires addressing. Status quo is maintaining the chaos, not stabilizing the industry. We are trying to manage the fishery for success, but instead, have contributed to its problems. The fishery of today is a child of the policies and politics of the past.

## **New Policy Proposal**

ASP Member-Producers support a revision in the current minimum processing requirements, for at least 5 reasons.

### **1. NL Producers should operate on the same footing as our competitors.**

We operate in a globally competitive environment, as was noted in the press release announcing the MPP study. Other Canadian jurisdictions are not limited like NL producers, and neither are our international competitors in Iceland, Norway, etc. That is acknowledged in DFA's recent press release following the visit to Iceland. Additionally, we must further emphasize that the other Atlantic provinces are becoming increasingly more interested in NL species. As there are no landing restrictions this may be a real threat. If plants in the Atlantic provinces can make more profits in the presence of open markets access, they will pay more money to harvesters and provide the incentive for them to sell outside NL.

### **2. The objective of maximizing economic value is not met by minimum processing restrictions**

We can increase value in this business by selling what the market wants, not necessarily what creates the greatest work content. At present that is acknowledged in lobster, crab (preference for crab sections over meat, with annual renewal of a general exemption in this regard) as well as in aquaculture. The objective of increasing work content - which is the

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<sup>14</sup>ibid.

fundamental objective of the minimum processing policy - is a cost on industry and is not efficient. It drains value from the fishery.

**3. Increased market returns from a renewed processing policy will place the industry on a sounder footing.**

The NL processing industry Economic Value must be defined as getting the best return from the market. This fundamental objective can be better met by allowing producers to sell to the market in the form determined by the market. A higher return to processors can potentially result in a higher to the province, as is the current case with crab.

**4. Work Content Maximization is not the right goal with increasing worker shortages.**

It is illogical to aim at work maximization when in fact the industry faces a growing worker shortage. Period. Only economics can determine employment, not social objectives.

**5. Government edicts do not correspond to market realities.**

Fundamental to the desire for change in the current policy is the conviction that restrictions on minimum processing do not correspond to or influence market realities. Determining that 10% of crab processing must be in some value-added form is a dictate from on high, to increase worker content. It did not correspond to increased consumer demand for a value-added product form. Numerous producers who had in fact produced in excess of 10% value added saw markets collapse when the rest of the industry was obliged to undertake 10% value-added.

It is crucial that we recognize that every choice and policy measure has costs associated with it. While the objectives may be inherently laudable, such as maximizing employment, each choice we make impacts in ways not expected. Employment maximization – and directives that assumedly achieve that goal – are distortions of market and economic realities that ultimately undermine the industry's competitiveness and financial viability. That is true in all sectors.<sup>15</sup> We could theoretically shovel snow off our streets with manual labour. Employment would obviously be increased. But we have recognized that we can achieve greater efficiency in snow clearing with machinery that is more efficient and yet displaces workers.

This applies to the fishery. We can increase the overall value by allowing processors to sell to market specifications determined by the market. Clear leadership can and

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<sup>15</sup> An oft-used example and perfect illustration of the unintended consequences of such policies of that of gas prices. Consumer groups complain about high gas prices, and governments sometimes react with regimes to cap prices. Given that price serves as an indicator of cost and demand, price caps distort the ability of the industry to determine demand. Subsequent to gas price caps, supply often goes down. A given cap might mean industry will not be able to recover shipping costs to an outlying region, and so will reduce supply to that area. Gas price caps have consistently lead to gas shortages.

should explain how and why this works, and is in the best interest of the industry and the province as a whole.

As a basic position, industry supports 100% market specification policy for processing. This will increase the value in the industry: producers can be trusted to want to make the most money, and ensure the overall value of the fishery is maintained. We believe this position is entirely defensible and rational.

Without prejudice, it may be appropriate to consider a range of options with respect to processing policy in the province. For example, it may be that a modified minimum processing policy can be adopted as an interim measure, wherein industry and government together announce that market specification is the goal by year 3 of a multi-year policy, such as represented in the table below.

<b>Proposed Graduated Minimum Processing Policy</b>			
	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
<b>Minimum processing required</b>	Current policy liberalized by 25%.	50% of raw material subject to minimum processing	Full market specification for all NL raw material

This would have the benefit of a graduated approach that could be studied in the course of its implementation. It would mute criticisms in the first year, and inherently suggests a reasoned approach, over time, to a politically sensitive issue. It also recognizes workforce shortage challenges that are pending.

Other ideas include making an allowance for minimum processing as a percentage of net income of producers. This was actually done in the Mining industry, but it was eventually eliminated. As the then-Minister said in the House of Assembly,

The current act provides for a minimum processing allowance of 15 per cent of net income, whether or not the mine operator actually undertakes processing. This minimum processing allowance will be eliminated ....<sup>16</sup>

Industry is prepared to enter into consultations with government on this matter. We agree we must find workable solutions. Ultimately, we must recognize that we compete in a globally competitive industry. We support the position expressed by the Minister in his recent press release:

The global marketplace is becoming increasingly competitive. As we move forward to address the challenges facing our fishing industry, we must be prepared to compete within this environment. If we are to compete successfully, we must develop a strong understanding of the global market demands, and ensure that our seafood products can most effectively accommodate those demands.<sup>17</sup>

True. We must compete in a global environment. The marketplace is increasingly competitive. The majority of NL seafood products are sold in the international marketplace, making NL Canada's third leading exporter of fish and seafood products

<sup>16</sup> <http://www.hoa.gov.nl.ca/hoa/business/hansard/44th,%204th/02-12-12.htm>

<sup>17</sup> <http://www.releases.gov.nl.ca/releases/2006/fishag/0913n05.htm>

with exports valued at \$886.6 million in 2005.<sup>18</sup> Total production was \$913.5 million, meaning 97% of all NL production is exported.<sup>19</sup>

The Minister also said "If we are to compete successfully, we must develop a strong understanding of the global market demands, and ensure that our seafood products can most effectively accommodate **those demands.**" [emphasis added]

True. We must develop a strong understanding of the global market demands, not workplace requirements in the province. The former, not the latter, dictates what the international marketplace wants from this province, and what it is willing to pay for seafood.

The press release added that the Minimum processing review "would involve a review of **market demand** for specific products and a subsequent determination if current policies reflect market preferences, industry competitiveness and resource opportunities."

This is where we need to be, but the notion remains in some quarters that we can add value to production by increasing **work** content. That may or may not be the case in a given instance, but it is certainly not a given.

Yet at the conclusion of the press release, MFA said:

When it comes to **employment creation** within the fishery and within rural Newfoundland and Labrador, we know that **every job we can create or protect counts.** Government believes that solutions can be found, and we are taking advantage of every opportunity to find them.

Only industry can determine the format and content in automobiles sought by consumers. That goes for seafood as well. The market place should be left to make those determinations. We are not prepared to compete when we decide *a priori* what product form(s) we must maintain.

## Conclusion

Finally, industry renewal remains the biggest outstanding issue in the industry. Allowing for consolidation will potentially give rise to additional value-added or secondary processing, or even more primary processing. In the absence of alternative economic opportunities for many rural communities we have been willing to bend to political pressures from constituents that are often desperate and will jump at any chance to remain in their community even if ultimately they are chasing a false hope and ultimately devaluing themselves and our economy overall.

This cycle has been ongoing for decades and people in many cases have lost self-respect. It is time that government's definition of employment not focus on numbers of individuals qualifying for EI. Fishery workers have allowed themselves to be marginalized and employment in the fishery has become nothing more than welfare to many. Minimum processing requirements are just another piece of the restructuring puzzle that we must grapple with. This whole topic would largely

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<sup>18</sup> [http://www.dfo-mpo.gc.ca/media/backgrou/2006/hq-ac03a\\_e.htm](http://www.dfo-mpo.gc.ca/media/backgrou/2006/hq-ac03a_e.htm).

<sup>19</sup> <http://www.economics.gov.nl.ca/E2006/fishery.asp#search=%222005%20production%20value%20seafood%22>.



disappear if the industry were rationalized and the painful decisions that need to be made by all stakeholders were made.

Nostalgia must not be left to determine our processing policy. We – and government - require an approach based on reason and a recognition of global industry realities.

## Appendix A

<b>Table 1</b>	
<b>Current Minimum Authorized Treatments for Selected Species</b>	
<b>Species</b>	<b>Treatments</b>
<b>Snow Crab</b>	Sectioned or whole cooked; and 10% of all raw material purchases for 2006 must be processed into:  (i) Individually scored "snap and eat" leg segments;  (ii) cap on or cap off cocktail claws;  (iii) 2 lb (907 gram) consumer packs;  (iv) meat removed from shell; or  (v) other value-added forms as may be approved.
<b>Other Crab</b>	Cooked and meat extracted.
<b>Redfish, Greysole Yellowtail flounder Cod Hake Pollock Other groundfish.</b>	Filleted; or split and salted.
<b>Hallbut or Turbot</b>	Headed and gutted and packaged in fresh or frozen form.
<b>Monkfish</b>	Filleted; tails; or headed and gutted in frozen form
<b>Herring, Mackerel or Capelin</b>	Salted and packaged in a carton <sup>20</sup> not to exceed 110 kg.; or whole packaged in frozen form.
<b>Lobster</b>	Live.
<b>Shrimp</b>	Cooked and peeled
<b>Whelk</b>	Whole Frozen

**Appendix 6**

**Economic Model - Snow Crab**



**Appendix 7**

**Market Assessment**

**Mr. John Sackton - Seafood.com**

**August 2006**

## **MARKET ASSESSMENT**

This market information section will provide for each major species or group of species the following information:

- 1) Discussion of product forms in the world market;
- 2) Discussion of product forms produced in Newfoundland;
- 3) Market prices reflecting current or recent market conditions;
- 4) Trends in product forms, and factors that impact the value of various product forms; and
- 5) A discussion of whether current minimum processing requirements are aligned with market demands.

With this information, the value of various product forms was applied to the model to provide guidance and an estimate as to whether current regulations reflect current market conditions.

### *Snow Crab*

Snow crab is the most valuable major species currently produced in Newfoundland and Labrador. In 2006, total tonnage of snow crab production was 32,413 tonnes of finished product, with a product breakdown as follows:

U.S. sections 5-8 oz:	7,792 tonnes (24.04%)
U.S. sections other sizes	9,234 tonnes (28.49%)
Japan sections 5 up oz	1,340 tonnes (4.13%)
Japan sections other sizes	9,447 tonnes (29.15%)
Sections for Reprocessing - Export	277 tonnes (0.85%)
Other Sections - Knuckles/claws; Shoulders/arms	494 tonnes (1.52%)
Value-added Products	3,518 tonnes (10.85%)
Sections for Reprocessing in NL	625 tonnes (1.93%)
Leg meat	11 tonnes
Salad and minced meat	32 tonnes

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Combo meat	100 tonnes
Claws cap-on	89 tonnes
Claws cap-off	79 tonnes
Total Meats	311 tonnes (0.96%)

In 2006, the Province continued its requirement that 10% of all production go into value added products other than frozen sections. For 2006, the Province calculated the round weight equivalent of snow crab production at 53,227 tonnes. *The Province also reported that 5,895 tons round weight equivalent of value added products were produced, leaving a shortfall under the minimum processing requirements of 2,887 tons.*

The market data section of this report will look at all product forms of snow crab available on the world market, the product forms produced in Newfoundland, and the current market prices and conditions for these product forms.

In general, the cost of the raw material is the largest single cost in any processed seafood item. The reason is that with the single exception of whole fish or shellfish, the product as sold on the market represents only a portion of the product weight purchased by the processor. The percentage of useable product corresponds to the processing yield. Maximizing yield is a critical component in any fish processing operation.

In examining whether and how various product forms of a particular seafood item are economically viable, the yield factor is critically important, and provides a starting point for considering the market price differential among various product forms of snow crab.

Maximizing the market value from a particular fishery means finding the right combination of product forms that provides the highest return to processors under a given set of market conditions.

Most processors do not produce individual products in a vacuum. The same plant produces multiple products, and the costs of operations have to be allocated to a range of products. In some cases the production of a product at an extremely low return will be necessary simply to have the plant operating and able to take advantage of higher returns available for other products.

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In other cases, value added products are a by-product of the production requirements for other products. For example, when packing crab sections for the U.S. market, 10% of the case, by weight, is allowed to consist of sections missing one or more legs.

A processor that sells crab claws as a separate item has to get them either from incomplete sections that are packed within the 10% allowance, or from crab that is going to meat processing.

It would not be possible to increase the production of crab claws, for example, without either degrading section packs, or increasing the production of meat.

Therefore the choice of which product forms to produce in a given fishery is a complicated matter. On the one hand are the actual prices paid and products sought by customers. On the other hand are the actual costs and yield required to produce these products. Added to this are the contributions of these various products to overall plant operations; both in terms of income to buy fish and in terms of plant operating costs, and the availability of specific product forms.

This market section on snow crab will identify the market demand for different product forms, the competitive situation among product forms, and the degree to which market prices in fact reflect the added costs in terms of yield and other costs.

Finally, because the market relationships change over time for various product forms from different species, it is necessary to provide some historical perspective on these changing relationships, since they can mean that a product once profitable to produce becomes less so, or unprofitable, based on changes in customer demand.

### **Global Product Forms**

Snow crab is sold primarily in sections in the U.S., and in sections and as meat in Japan. All snow crab product forms are various methods of selling the crab either as sections, or as meat.

Cooked crab sections are produced by brine freezing or blast freezing. Some raw sections are



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produced also, that can either be brine frozen or blast/plate frozen.

There is no large-scale blast freezing of crab sections in Newfoundland. Blast/Plate freezing is more expensive than brine freezing primarily because of a 1% to 2% loss of yield. Crab frozen in brine absorbs about 1% to 2% by weight, replacing some of the weight lost during the cooking process. When crab is cooked and then blast frozen, however, there is a lower yield, because the loss of weight in cooking is never recovered. Typically the cost of blast or plate freezing can be 25 cents per lb. more than the cost of brine freezing just from the yield differential, and using Nitrogen or CO2 freezing can add an additional 20 to 30 cents to the cost.

The advantage of blast frozen crab sections to the Japanese market is that the Japanese have in the past preferred the taste of the blast frozen crab, since it is less salty than brine frozen sections. American markets, however, prefer the saltier taste and only accept brine frozen crab.

Secondly, the appearance of blast frozen crab can be spectacular, and this is one reason why gulf crab, blast frozen, has traditionally been one of the highest priced Canadian snow crab products in Japan.

However, in recent years, the trend in the Japanese market has been to cut costs of seafood buying by moving to the lower priced products. This has meant a big contraction in the demand for blast frozen crab because fewer and fewer customers in Japan are willing to pay the cost differential of \$0.50 to \$1.00.

The Japanese market uses brine frozen crab, brine frozen crab that has been processed into crab meat and raw frozen crab. Raw frozen crab is used in Japan in nabemono, a type of dish where diners cook their meal in a pot on the table. This is a popular meal in winter, and is often based around raw crab, brought to the table, and cooked communally in the pot along with other ingredients.

Brine frozen crab sections from Newfoundland are almost exclusively processed into crab meat in China before being shipped to Japan. One of the uses is in sushi, where the length of the merus section of the leg has a market value. Sushi restaurant operators prepare rice for the length and thickness of the merus section, and it so happens that Newfoundland crab has shorter, less weighty

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merus sections than Alaska crab, and as a result, it is preferred for this sushi use because it costs the operators less.

Sushi operators cannot cut the merus section to the desired length, because the whole piece, uncut, is what is valued in the eyes of the customer.

The following figure shows the breakdown of the Japanese market in terms of product form.

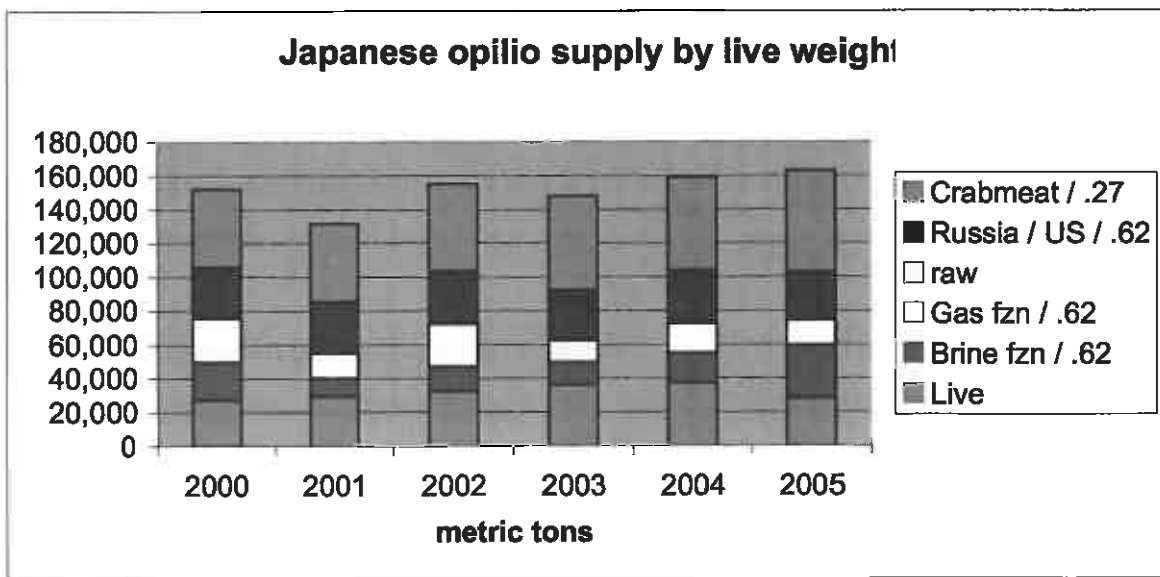


Figure 1

The U.S. snow crab market has no comparable breakdown of product form that can be shown graphically, because the market is dominated almost entirely by sections. Although crabmeat from other types of crabs is heavily imported into the U.S., snow crab meat has become almost non-existent.

The U.S. market is primarily a market for sections, although in the past it has been a large market for snow crabmeat as well. Sections are priced by size in both the U.S. and Japan. Different sizes of sections have particular types of customers and markets. All you can eat buffets and casinos, which are major users of snow crab, like the 5-8 oz size section. Studies by owners of all you can eat restaurants have shown that putting out smaller crab (i.e. a 4 up, or a 3-5 oz) on the buffet

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actually causes diners to eat more, because they waste so much of the crab. As a result the major market for the smallest size crab is in retail 2 lb boxes, where the small size helps keep the price down.

Larger size crab, i.e. 8-10 oz and larger, are also preferred by some retailers and in some foodservice applications. But the market for larger size crab is smaller than the market for 5-8 oz crab sections, and typically the supply of 5-8 oz sections is exhausted before buyers are willing to pay for, or even take, 8 - 10's and 10 ups.

### **Product Forms Produced in Newfoundland**

In Newfoundland, snow crab sections represent 96% by weight of all processed crab products.

Standard cooked sections in the various sizes sold to the U.S. and Japan represent 84.33% of the total in 2005. Other types of sections, such as snap and eat, 2 lb. and other size retail boxes, raw frozen sections and sections for reprocessing make up another 12.46% by weight.

Crabmeat accounts for only 0.53% by weight, but because of its lower yield, accounts for a higher percentage of live weight crab.

Historically crab meat has been produced at a much higher volume, when there was a major effort to market snow crabmeat from Newfoundland under the Luxury brand. However, crabmeat was also heavily dependent on large volume purchases of a few customers, and when these customers abandoned snow crabmeat due to price, when section prices were over \$4.00 US/lb, there were no alternative markets. As a result, crabmeat production fell to a tiny fraction of its former volume, which at one time was between 1.5 and 3 million pounds per year.

### **Current Market Prices and Market Conditions**

U.S. sections 5-8 oz; origin Newfoundland currently sell for \$3.50-\$3.60 US/lb.

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These prices have come up about 28% since the beginning of the 2006 crab season in Newfoundland.

U.S. sections 8-10 and 10 ups, have increased as well, but not nearly as much as 5-8 sections, and in fact in many cases the prices for the larger size crab is very close to the price for the 5-8 oz. crab.

For example, 8-10's were selling for \$3.25-\$3.30 US/lb at the beginning of the season, and now are selling for \$3.60 US/lb, a gain of only 9%, and 10 ups are also selling at similar prices, i.e. \$3.65 US/lb, and have gained even less since the start of the season.

Crabmeat is being offered at around \$8.00 US/lb by those who have any, but it is not in reliable supply.

Smaller crab, 3-5 oz in the U.S. market, has gone from a discount of \$0.40 or \$0.45 cents US/lb (\$2.35 US/lb) to the \$3.00 - \$3.10 US/lb range, maintaining their large discount relative to 5-8's.

Two Lb retail boxes have traditionally used the smaller 3-5 oz clusters, and have sold at the price level of 5-8 oz clusters. This 40 cent price differential includes all packaging materials and costs, labour costs, and other expenses of producing the 2lb retail pack. The fact that the Japanese were taking 4 ups for their own packs meant a further limitation in the supply of the retail 2 pounders.

### **Price Differentials Among Different Product Forms**

The following graph illustrates the ratio of combo prices to section prices for the period 1998 to 2004. The dashed line represents the break even point from a yield perspective, i.e. if the actual market price of combo meat is less than 230% of a section price, yield alone determines that the product form is less profitable than sections.

This formulation does not cover labour costs at all, i.e. it does not take into account the higher labour costs involved in meat production. The graph shows that for the period from August 2002 through August 2004, U.S. crabmeat market prices did not support producers making crabmeat. This is the principle reason why production declined so precipitously.

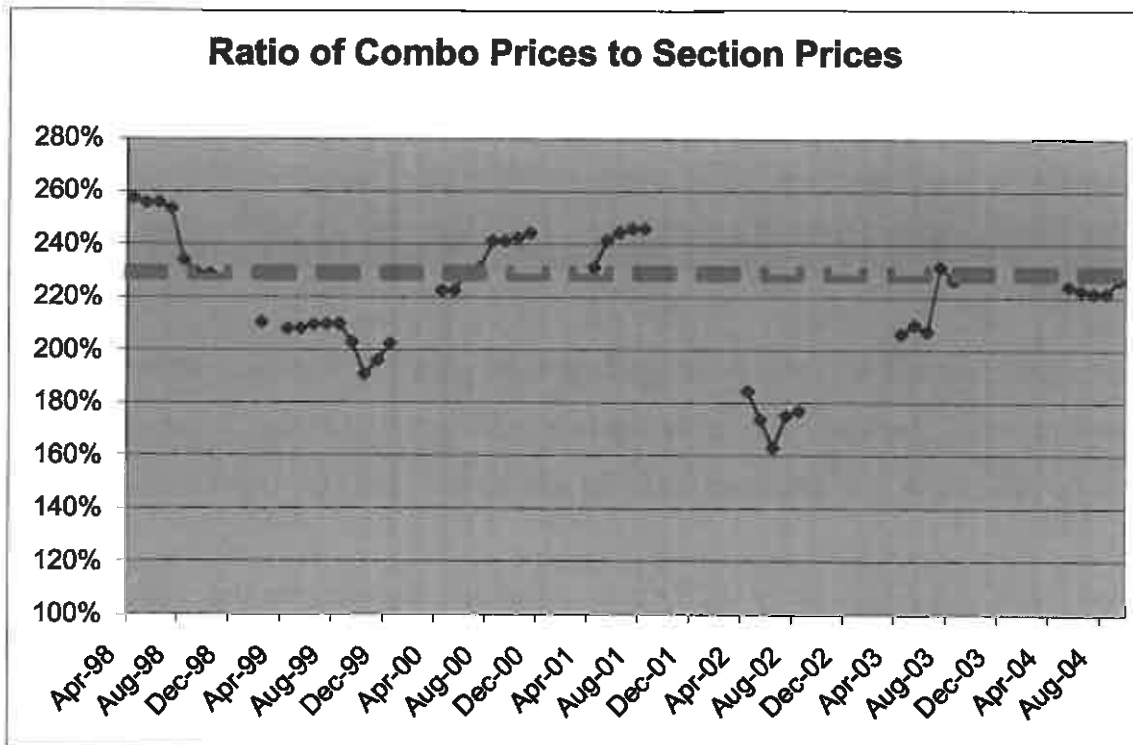


Figure 2 (Source: Seafood Datasearch Crab Price Reports)

The key issue about market price differentials among different product forms is that the relative strength of the different products varies greatly.

At the current time, 5-8 oz sections are selling at no discount to the 8 to 10 and 10 up sizes, while during other times, these sizes command a premium of anywhere from \$0.15 to \$0.25 cents US/lb.

At the same time, the price for small crab, under 5-8 oz, has maintained a large \$0.40 to \$0.45 US/lb discount from the price of 5-8 oz sections.

Crabmeat pricing is currently around \$8.00 US/lb, which is well above the raw material cost when live crab costs \$1.00/lb at the dock. For example, with a \$1.00/lb crab cost, the raw material cost before currency conversion is \$3.70/lb, which represents less than 50% of the market selling price. However, if crab raw material costs are \$2.00/lb, the raw material cost, without any addition for labour or other costs, is about 90% of the selling price of \$8.00 US/lb.

Yet because the amount of production from Newfoundland is so small, increases or decreases in the

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supply of crabmeat have almost no impact on the market; so this is a product that is viable under certain market conditions, primarily when crab prices are low, and not viable when crab prices are high.

### **Discussion of Minimum Processing Requirements in Terms of Market Demand**

Current regulations call for 10% of crab products to be processed into value added products other than crab sections. Products listed in the regulations include snap and eat leg segments, cap on or cap off cocktail claws, 2 lb consumer packs for sale at retail, and of course crabmeat.

Cocktail claws, using only one part of the crab section and degrading the rest, cannot ever become a large volume item.

The product forms that could be sold in large volumes include snap and eat sections, 2 lb. retail packs, and crabmeat.

Discussions with buyers indicate that there is latent demand for the 2 lb. retail packs that is not being met, and that there is demand for crabmeat as well.

#### ***2 lb retail packs:***

The 2 lb retail pack is a way to add value to the smallest size crab sections: 3-5 oz sections. In 2006, these sections were discounted between \$0.40 and \$0.50 US/lb cents relative to the price of 5-8 oz sections, and as 5-8 ounce sections have become harder to find in the market, the price differential has not changed.

The reason is that there is a limited market for small crab sections. The largest amount of sections are sold buffet restaurants which cannot use the smaller sections, even at a substantial discount, because they end up costing more money when placed on buffet tables.

Retailers will sometimes purchase small sections to run specials, but only when the price is attractive.

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The 2 lb retail pack is a good alternative because although it also is composed of small sections, the packaging can be used to minimize this fact. The packages can make the crab look very attractive.

Retailers need to sell this product under \$9.99 US for it to move. At current price levels, this is an attractive product to retailers and distributors.

This year, with the fact that the Japanese have reduced their size specification to 4 up, there was less small crab to ship to the U.S. market. Obviously, if a producer can sell his 4 oz crab section to a Japanese buyer at the same price as the rest of his crab, that will be the most advantageous situation.

However, retailers and their suppliers are willing to bid to buy 2 lb retail packs, up to a point. In the past, they have generally offered to pay the 5-8 oz price for the 2 lb retail pack of 3-5 oz sections, with the producer paying all the additional packaging costs and holding packaging inventory.

There is definitely room to expand the production of these 2 lb retail packs, based on buyer interest. Further, prices for these can be negotiated, according to buyers, if the standard differential between the 3-5 oz crab section and the 5-8 oz crab section is not sufficient.

*Crabmeat:*

The biggest problem with snow crab meat in the U.S. market is not price, but lack of availability. The drop in production has meant that many traditional sellers of crabmeat to foodservice simply have not had product. As a result, foodservice buyers are very reluctant to put it on their menus, for fear they will not have a reliable supply.

The first key to expanding the market again for Newfoundland snow crab is to convince customers that the product is in fact available. This means producing to hold product in inventory.

Secondly, there has been an explosion of demand in the U.S. for crabmeat, which has been met by growing imports of Asian crabmeat, mostly from blue type swimming crabs. But there are also imports of snow crab meat from Asia, including Newfoundland crab sections sent to China for reprocessing and then sold back in the U.S.

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The issue with Chinese picked crabmeat is not simply price. It is also that the market recognizes that hand picked quality is superior to machine produced crabmeat.

Nevertheless, based on questions from buyers, there is room in the market for more Newfoundland snow crab meat, provided buyers believe that supplies will continue to be available.

Currently, fines for companies that fail to meet the 10% requirement can add costs of up to 5 cents a pound for the crab sections that they sell. Some incentives for companies to expand crabmeat production could be useful in expanding this market, which has greatly shrunk, but which has not disappeared.

***Shrimp***

Shrimp is the second most valuable seafood commodity produced in Newfoundland. Currently, the inshore shrimp fishery produces only cooked and peeled coldwater shrimp. Within this category, shrimp are priced by size. The following table gives the size breakdown reported by plants to the Province in 2005.

Ungraded	6,224,946	24.82%
<150	3,172,431	12.65%
150-250	8,707,579	34.72%
250-350	6,162,285	24.57%
300-400	184,034	0.73%
300-500	630,116	2.51%
Total	25,081,391	

Data: Province of Newfoundland and Labrador, Department of Fisheries and Aquaculture

The distribution of size of cooked and peeled shrimp is a function of the stock and the fishery, and is not something that is controlled in the plant.

There are significant price differences based on size, but the differences are not static, rather they are determined by the market demand for the various sizes. For example, Figure 3 shows that beginning in the spring of 2005, the price differential between 175-250 and 250-350 count shrimp



began to narrow significantly. This came about in a weakening market when there was a greater oversupply of 175-250 count shrimp than there was of 250-350 count shrimp. As a result, the differential between the two sizes shrank to almost nothing.

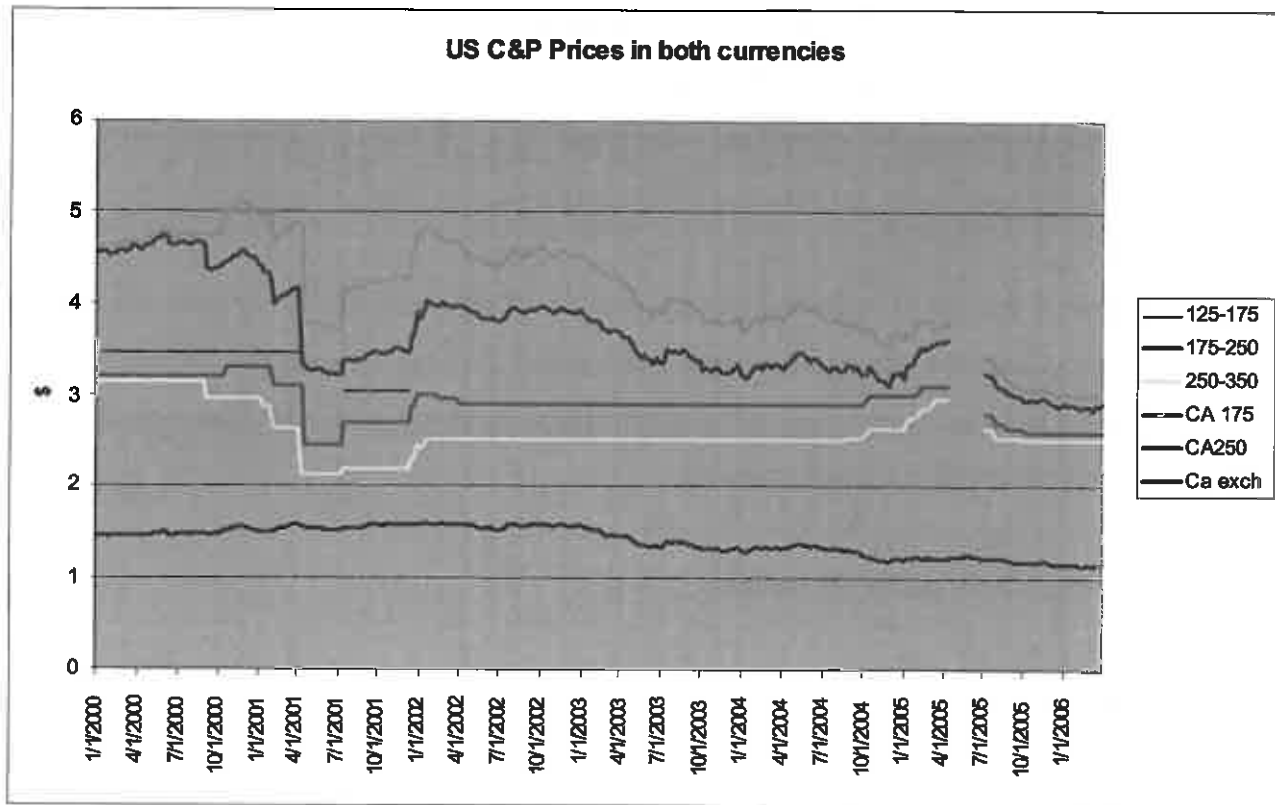


Figure 6.3: Price Graph of recent U.S. coldwater shrimp prices in both U.S. and CA dollars

The Newfoundland inshore shrimp fishery produces only cooked and peeled product. Shrimp is landed and held for one or two days before peeling to allow for better removal of the shell. Product is then cooked, sized, glazed and frozen.

The Newfoundland coldwater cooked and peeled shrimp is a single frozen product; i.e. it is not frozen until after it is cooked. Industrial cooked and peeled shrimp produced by offshore trawlers in Greenland and Norway is frozen at sea, then slacked out and cooked and peeled, and then refrozen, making it a twice frozen product. In some markets, especially in Denmark where shrimp is brined and sold in containers, there is a strong preference for single frozen shrimp.

## **Global Product Forms**

There are two primary types of shrimp produced in the world: coldwater shrimp and warm water shrimp. Most warm water shrimp is from tropical aquaculture, with significant catches of wild warm water shrimp as well. Warm water shrimp are larger, and can be grown larger, than cold water shrimp. There are hundreds of individual shrimp species, of which *P. vanamei* (south American white shrimp) and *P. monodon* (Asian Black Tiger Shrimp) are the most commercially important.

There are several species of coldwater shrimp as well, of which *Pandalus borealis*, the type of shrimp found in Canada, is the most important, with global landings between 350,000 and 450,000 tons annually. On the U.S. west coast, a *P. jordani* shrimp is caught, and in Europe, a small brown shrimp (*crangon crangon*) is caught and sold.

The primary product forms for shrimp are:

- **Shell on, head on**

This is a whole shrimp, sold either raw frozen or cooked. In southern Europe and France, this is a standard product form for cold water shrimp. In Asia, including China and Japan, head on cold water shrimp, often cooked and frozen at sea, is the primary product form for cold water shrimp.

There is also significant aquaculture production of shell on head on shrimp from Ecuador for the European market.

- **Shell on headless**

These are shrimp that have been processed to take off the head, but remain raw and in the shell. For warm water shrimp, this is the primary product form for larger shrimp. The most typical product form is a 5 lb. frozen block, but there is also substantial IQF production as well.

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All shrimp have glaze to protect them in frozen storage. The amount of glaze is a specification that is variable, and can be determined either by the producing plant or the buyer.

Shell on headless shrimp are graded by size, in counts per pound, or per kg., that range from U-6 meaning under six shrimp per pound, through a host of standard sizes such as U-12, 13-15, 16-20, 21-25, 26-30, 31-35, 31-40, 40-50, 51-60, 61-70, 71-90, 90-110, 110-130 etc.

In recent years, as shrimp consumption has continued to grow, a number of shell-on processed products have been developed. The most important is a shrimp called “easy peel”, which is simply a headless shell on shrimp, with the shell cut vertically and the shrimp deveined. The advantage to the user is that these shrimp are easy to peel. The advantage to the seller is that these shrimp can be treated with water retention chemicals such as sodium tripolyphosphate. The split shell allows the shrimp to absorb water, which is not possible with an intact shell. This is not a legal additive in Canada.

- **Peeled raw headless**

Peeled shrimp is a very important product form. In this case, the shrimp is peeled, but remains raw and is processed as an IQF product. For the larger shrimp, mostly 21-25 and 26-30, the tail is left on. Smaller peeled shrimp are sold at retail as IQF shrimp.

The smallest warm water shrimp, which can be sized 151-200, 200-300, etc. are called salad shrimp, also PUDs, which means peeled undeveined. These shrimp in the various sizes are the raw material for breaded shrimp.

- **Cooked and Peeled**

Cooked warm water shrimp (sold IQF) is another very important category exhibiting strong growth. Most warm water cooked shrimp is Asian white or Asian black tiger shrimp. For warm water shrimp, cooked has the same meaning as cooked and peeled.

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Cooked and peeled or cooked head on are the two primary product forms for cold water shrimp. Cooked head on is generally processed on board factory trawlers, and is sold to markets in Southern Europe and Asia.

Cooked and Peeled is done in land based plants, either from fresh shrimp landed by local boats, or from frozen raw shrimp that is frozen at sea, but then thawed for the cooking and peeling process on shore.

- **Breaded**

Finally, there is a large volume of breaded shrimp produced as well, exclusively from raw peeled shrimp. Most breaded shrimp sold at retail or foodservice comes from secondary processors who specialize in breading shrimp.

### **Product Forms Produced in Newfoundland**

Currently the only shrimp product form produced on shore in Newfoundland is cooked and peeled shrimp. This shrimp is sold by size. There may be some significant advantages to additional shrimp product forms for cold water shrimp. The two product forms of most interest are shell on headless, and raw peeled shrimp.

Coldwater shrimp has a different flavor profile than warm water shrimp, and in some markets its flavor profile is preferred. In Maine, processors have been quite successful producing larger size headless shell on shrimp from *Pandalus borealis*. As a raw product, the shrimp actually is sized in the 50-60, 60-70, 70-90, 90-110, and 110-130 range.

Secondly, the shrimp breaders are at times limited by access to raw material. Most of the shrimp PUD's used in the large scale breading operations in the U.S. are wild shrimp caught in Guyana or similar countries. Because it is a wild stock, the supplies fluctuate.

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Given the oversupply on the world market for coldwater shrimp, the possibility of providing a new source of peeled, untreated, raw shrimp for the further processing market is something that could be possible if product development using cold water shrimp was successful. However, because raw product has to be handled in a separate plant, it has not been practical for any of the Newfoundland processors to experiment with further product development, particularly for breaded or value added products, with raw peeled shrimp. Further, the amount of sodium tripolyphosphate used in the holding and aging process (where it is not considered an additive) prior to peeling shrimp, is not suitable for peeled raw shrimp for further processing. That means that peeled raw shrimp would have to be segregated in the peeling process as well.

Given the tonnage of cooked and peeled cold water shrimp, the ability to diversify into additional product forms, could if successful, provide more market flexibility, and ultimately greater value, for shrimp production in Newfoundland.

### **Current Market Prices and Market Conditions**

The primary market for coldwater cooked and peeled shrimp is in Europe, and has been for several years as the strengthening of the Canadian dollar has made it very difficult to sell in the U.S.

The U.S. market has generally absorbed between 5,000 and 7,000 tons of Canadian cooked and peeled shrimp per year, and will absorb a similar amount this year. In the U.S., prices have come up slightly over the past two months. 175-250 cooked and peeled shrimp are selling for around \$2.55 US/lb; while 250-350 cooked and peeled shrimp are selling for around \$2.50 US/lb, having come up in price by 10 to 15 cents over the past two months.

The following graph, Figure 4, shows recent Urner Barry prices for three sizes of shrimp in the U.S. market

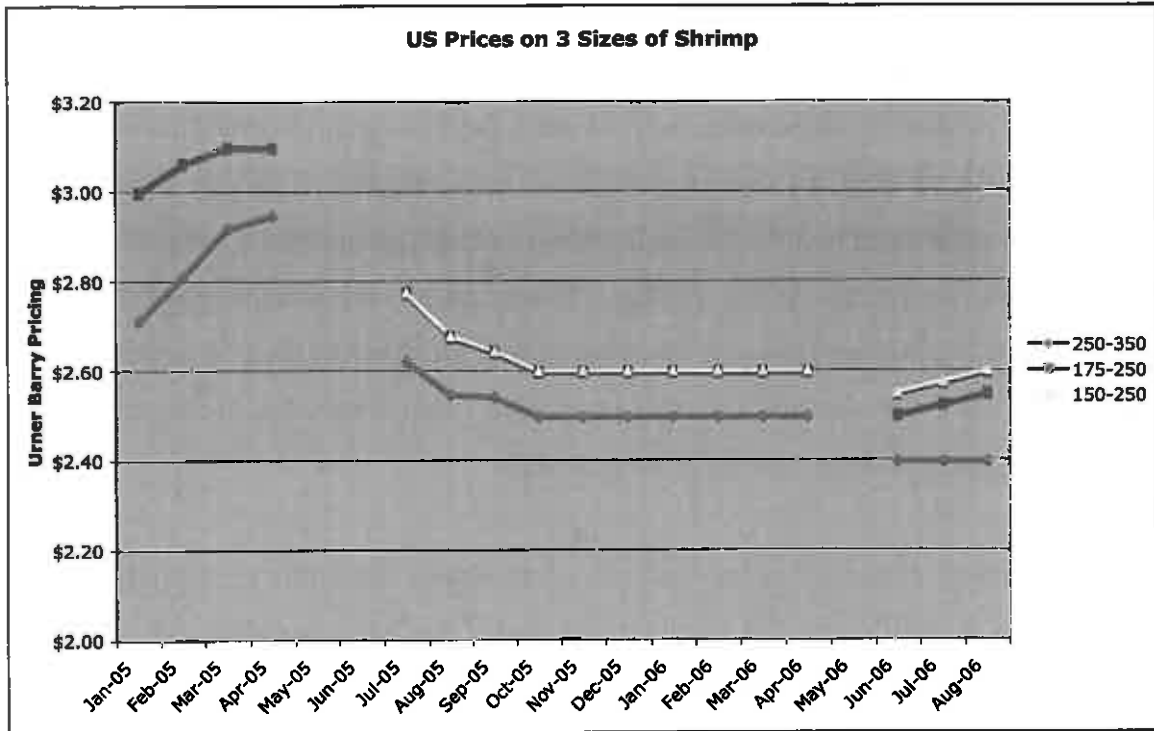


Figure 6.4

In Europe, the following table, from the Norwegian shrimp fishermen’s association, shows the prices of cooked and peeled shrimp, in over 2 kg containers, in Euro pr Kg. These figures are average customs figures, and so they do not break down the price by size. However, the table shows the relative stability of shrimp prices, with some increase in the latest month.

2004	2005	2006
5.04	4.79	4.10
4.98	5.11	4.48
4.89	5.39	4.69
4.81	4.76	4.72
4.88	5.11	4.92
5.00	5.24	4.62
5.16	4.92	4.77
5.16	5.08	4.87
5.16	5.02	
4.92	5.05	
5.04	4.99	
5.18	4.70	
<b>5.02</b>	<b>4.98</b>	

Prices have also been increasing in Europe at the Norwegian shrimp auctions during the second half

of this year.

In the different European markets, cooked and shrimp is sold in different currencies. In the UK, prices are in pounds; some customers pay in Canadian dollars. In Denmark, prices are in Euros, and in other parts of the continent, customers pay with either Euro's or Canadian dollars.

### **Price Differentials Among Different Product Forms**

Because the shrimp price differentials currently are based on size, not product form, we have no data to compare prices for headless shell on raw *Pandalus* shrimp with cooked and peeled shrimp.

Yield of cooked and peeled shrimp from live weight varies somewhat according to season, but averages around 31% to 33%. However, there would be a significant yield gain without cooking the product, and there would be the additional weight of the shell. From live weight, removing the head should remove about 30% of the weight, leaving a yield of 60 to 70%, or approximately twice the yield of the cooked and peeled product.

This means that if a 175-250 count cooked and peeled product sold at a price of \$2.75 US/lb in the U.S., a headless shell on shrimp from the same batch should be in the 110-130 count range. For comparison, a 131-150 count peeled tail on South American shrimp sells for around \$2.15 US per lb.

In select markets, it would seem that the pricing would be competitive with that of other shrimp, with the raw peeled shrimp being sold for the smaller sizes to compete with PUD's, and the larger shrimp, i.e. the 70-90 and the 90-110 sizes, could compete with the headless shell on product. None of these other products can replace the major volume of cooked and peeled shrimp; however, allowing a small amount of production of other shrimp product forms could stimulate some of the plant changes necessary to test these markets. Under proper conditions, this might enhance the value of the entire fishery.

## **Discussion of Minimum Processing Requirements in Terms of Market Demand**

The cooked and peeled coldwater shrimp market has been under significant pressure for several years. However, the current market conditions are improving. The basic problem has been that the UK, which accounts for about 50% of global consumption of pandalus shrimp, has seen very little growth in this type of shrimp.

In fact, studies by the Sea Fish Industry Authority showed that UK consumers are not that aware of the origin of their shrimp nor the difference between coldwater and warmwater shrimp. As a result, low prices for warmwater shrimp have driven major increases in UK shrimp consumption, but this has not occurred in the cold water sector. Adding to this the UK sandwich makers and retailers have not seen coldwater shrimp as an exciting product. So the significant increases in Canadian production have not been met by an expansion of market demand in the UK.

The other major traditional market has been Denmark, where diners have a preference for single frozen cooked and peeled shrimp. There is a strong possibility that the ATRQ tariff quota, which has limited Canadian shipments to 7,000 tons of low duty shrimp, may be adjusted upward for the remainder of this year, and the next three years (has been adjusted to 10,000 T).

However, this year Canadian shrimp exporters have expanded their markets to other countries in Europe beyond the UK and Denmark, including Scandinavia, Switzerland, Germany, Russia and others. Furthermore, there have been increasing sales of cooked and peeled shrimp to China, which is also a market for head on cooked coldwater shrimp. The European market remains a cooked and peeled shrimp market.

The U.S. market has been difficult because of currency exchange rates, and also because cooked and peeled coldwater shrimp is a regional specialty, and is not considered to be a center of the plate item as is large warm water shrimp. The U.S. market will continue to absorb some Canadian cooked and peeled production without very significant expansion.



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However, the U.S. overall consumption of shrimp is skyrocketing, and this creates a potential opportunity with different product forms other than cooked and peeled shrimp. Although product development is necessary to see whether these raw peeled or raw shell on products would be successful, the place to try them may be the U.S. market.

### ***Groundfish, including Cod and Redfish, and Yellowtail Flounder***

Groundfish, including cod, redfish, and flatfish, is the third most valuable fishery after snow crab and shrimp. In 2005, according to Provincial production data, 27,892,197 Kg. of filleted, split or salted groundfish and flatfish was produced. About 691 tons (1.523 million pounds) of this production was small redfish shipped either whole frozen or H&G to China and Japan.

It appears in 2005 that about 2.5% of the total groundfish production was processed under an exemption from the minimum processing requirements. However, this figure does not account for fish left in the water because it could not be processed. For example taking all Atlantic Canada, about 15% of the Yellowtail quota was uncaught in 2005, as was about 15% of the redfish, according to the Atlantic Canada quota reports for 2005.

<b>Cod</b>	10,353,203	5.17%
<b>Flounder, Other</b>	8,547,959	4.26%
<b>Greysole</b>	557,663	0.28%
<b>Groundfish racks, heads, offal, All Species</b>	13,152,706	6.56%
<b>Haddock</b>	646,963	0.32%
<b>Hake</b>	1,018,938	0.51%
<b>Pollock</b>	3,414,736	1.70%
<b>Redfish</b>	3,352,735	1.67%

Data: Province of Newfoundland Ministry of Fisheries and Aquaculture (in kg.)

In terms of products, the breakdown for cod products is as follows:

<b>Heavy Wet Salted</b>	29.21%
<b>Fillet, Frozen</b>	14.42%
<b>Breaded</b>	13.67%

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<b>Fillet, Fresh</b>	8.95%
<b>Loins</b>	7.58%
<b>Minced</b>	7.35%
<b>Block</b>	6.47%
<b>Dressed (Fresh or Frozen)</b>	4.73%
<b>Tails</b>	3.29%
<b>Nuggets</b>	2.94%
<b>Light Salted</b>	0.71%

Not all of this cod is landed in Newfoundland, as shown for example by the relatively small production of cod block, and the much larger production of breaded cod products, typically made from block. On the other hand, the salted cod, loins, and fresh fillets are almost certainly all primarily from Newfoundland caught cod.

Interestingly, the largest single export item to the U.S. is salt cod, with salted and dried making up about 40% of all cod exports to the U.S. so far in 2006.

<b>Block</b>	265,613	6.82%
<b>Fillets fresh</b>	173,500	4.45%
<b>Fillets Fzn</b>	804,018	20.64%
<b>Salted</b>	1,211,792	31.11%
<b>F r e s h   a l l forms</b>	661,920	16.99%
<b>Dried</b>	380,799	9.78%

US Imports of Canadian Cod by Product Form Jan-Aug 2006 (Source: USD Customs Data)

For flounder, the breakdown is about 50% to fillet form, and about 27% is dressed. Minced represents 15% of the total.

<b>Fillet, Frozen Total</b>	35.91%
<b>Dressed (Fresh or Frozen) Total</b>	27.44%
<b>Fillet, Fresh Total</b>	16.74%
<b>Minced Total</b>	15.44%

For redfish, the product breakdown in 2005 was:

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<b>Bait (Fresh or Frozen)</b>	4.61%
<b>Block</b>	0.02%
<b>Breaded</b>	1.78%
<b>Dressed (Fresh or Frozen)</b>	42.88%
<b>Fillet, Fresh</b>	7.44%
<b>Fillet, Frozen</b>	19.39%
<b>Whole (Fresh or Frozen)</b>	23.87%

For redfish, fillet production is only about 27% of total production, with 66% of all redfish being processed either whole or dressed.

### **Global Product Forms**

Groundfish and flatfish is such a large category that there are many specialty product forms and regional items in addition to the major product forms discussed below. However some generalizations about product form can be made based on the established preferences of the primary global consuming regions for whitefish.

On the most general level, North America is primarily a fillet market, with most groundfish and flatfish sold as fresh or frozen fillets, and most secondary processed products, such as breaded and battered fish, made from fillet blocks. Secondly, because North America has a large ethnic population of Spanish and Portuguese descent, there is also a significant market for salt cod.

In Europe, there is a marked difference in product forms of whitefish in Northern Europe than in Southern Europe. In the UK, Germany, Scandinavia, and Denmark, and Belgium, for example, most whitefish is consumed as fillets, and secondary products are manufactured from fillet blocks, similar to North America.

But in Spain, Italy, parts of France and Portugal, for example, consumers are more interested in buying whole fish and also these countries are large users of salt cod. Although the amount of fillet products is increasing in Southern Europe, a large volume of whole fish and H&G fish is still sold directly to consumers.

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In South America, especially in Brazil, there is huge demand for salt cod, and these countries tend to use product forms more similar to Spain and Portugal, i.e. a lot of locally produced headed and gutted fish, as well as salted fish, and to a lesser extent, fillets.

In Asia, in Japan and China, there is also a demand for headed and gutted fish, whole fish, and a far smaller demand for fillets.

Much of these cultural preferences are driven by perceptions of quality. In Spain, for example, the reluctance to buy fillets comes partly from the demand to judge quality by looking at the whole fish. The same is true in Japan, which is a big importer of headed and gutted cod, but imports almost no cod fillets.

Another factor driving the consumer preference for whole fish in some countries is price. The whole fish are considered cheaper than the fillets.

The globalization of fillet production, particularly the tremendous expansion of fillet production in China, has also altered raw material flows so that in some cases imports now support a further processing or manufacturing industry, rather than local consumption. In this case, imports are in the cheapest raw material form, which for small fish is often whole, or headed and gutted.

### *Fillets*

Fillets are the standard product form for cod and for flatfish. Groundfish fillets can be produced as boneless, pin bone in, or pin bone in and skin on. Whether the skin is left on or not is a market preference.

For example, the U.S. northeast market for haddock prefers skin on, but the UK market will accept skinless haddock. For redfish, the Midwest market, centered in Chicago, demands skin on product. In both cases, this is so the consumer will believe they are actually getting the fish they think they are getting.

A secondary benefit is that skin on is slightly less expensive, and is definitely cheaper to produce.

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There are also a number of cuts and portions for fillets. Flatfish typically are boneless fillets, simply sized based on the size of the fish. They can be produced either IQF or as layer or shatterpack, and of course fresh. All flatfish fillets are skinless.

Cod fillets can be cut or portioned a variety of ways. The most typical is a pin-bone out cut, which removes the strip of pin bones from the fillet, leaving a v shaped notch. If the belly flap portion of the fillet is cut off, it becomes a J-cut, again boneless. Larger cod fillets are portioned into loins, center cuts, and tails. All of these can be sized by the ounce, and sold IQF. Whole fillets tend to be sold in layer pack or shatterpack, but some are IQF.

As mentioned before, haddock and redfish (also known as Ocean Perch) are the only groundfish typically sold skin on.

### *Whole, H&G and Dressed Fish*

Headed and Gutted, or head-on gutted, are groundfish that are destined for further processing. Fresh gutted cod is the mainstay of the fish auctions in New England, and fish to be sold there is shipped this way. H&G cod tends to be frozen, as this is the product form used in Asia, both by end customers in Japan, and by manufacturers in China.

For flatfish, smaller fish can be frozen whole, while larger fish are normally filleted. There is no advantage to gutting a flounder without filleting it. For some Asian markets, the whole flounder has the head removed.

### *Salted*

Salt cod, and pollock and hake, are products generally produced from an H&G cod that is then split and salted. Salt cod is graded by its moisture content. Wet salted cod still contains a high level of moisture, and will be further processed before being sold to the final consumer. Dry salted cod is fully preserved and is the typical product form that is purchased by the consumer in Spain and in Brazil.

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Most salt cod is split with just the backbone removed. But some boneless salt cod is produced for some specialty markets as well.

#### ***Blocks***

Most further manufactured fish products from whitefish are made from boneless fillet blocks. These are fillets frozen to standard specifications into a 16.5 lb. block that can then be sawed or further processed into portions.

Blocks are used for all breaded products and formed and shaped fillets. Because the fillet product will be further processed, often the lowest acceptable quality fish is used for blocks, and when fillets are not suitable for a layer or shatterpack or for IQF processing, they often are sent for blocks.

#### ***Size and Yield***

Size and yield are related, and are critical components to a processor. The reason is that any fish purchased at the dock as raw material will only yield a smaller amount of useable product for sale. A small fish with lower yield is of considerably less value per pound to a processor than the same fish, larger, and with higher yield.

Obviously having more finished material to sell is important. But also the cost to produce the material is important as well. The problem with smaller fish is that the labour cost to produce a fillet is the same whether the fillet is large or small. With small fillets, labour costs go up, and it is not possible to generate the same though put per hour as it is with larger fillets, so the entire plant become more expensive to operate.

For example, the catch of yellowtail flounder generally breaks down in three sizes, with each representing about 1/3 of the catch.

150-250 gram fish can only produce fillets of 1.5 to 2.0 oz.

250-400 gram fish can produce 2-3 and 3-4 oz fillets.

400 grams and up fish can produce 4,5,6,7 oz IQF fillets.

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Each of these fillets has particular markets. The 1.5 to 2.0 ounce fillets are mostly useful for further processing, where they become breaded flounder fillets weighing 3 or 4 ounces, depending on the breading ratio. The 3 ounce and 4 ounce fillets can be sold into the fresh flounder fillet market when the market is short of fish and prices are higher than their year round average. The larger IQF fillets are a standard foodservice item that is used for restaurant customers serving flounder.

From a processors viewpoint, the issue is not whether it is possible to fillet yellowtail, but where is it possible to recover the labour and raw material costs from the processing operation. Today, virtually all small flatfish are filleted in China, where they can be done by hand and still achieve decent yields. Yellowfin sole from Alaska is all filleted in China, and shipped back to the U.S. as 1.5 to 2.0 ounce fillets, or blocks, suitable for further processing.

A Newfoundland processor is at a double disadvantage with the smaller fillets: the throughput in the processing plant is too little to support the overall operating cost of the plant, and the labour cost of the filleting for a 1.5 oz. fillet is equal to the labour cost for filleting the larger fillets.

The mid-range fillets have some specific markets where they can compete. Some processors aim these mid-range fillets at the fresh, previously frozen market. In recent years, many retailers and foodservice customers have come to accept a thawed previously frozen fillet as “fresh” since this was the only way they could get “fresh” products to use. As a result, thawed previously frozen fillets now enter the fresh distribution chain and are treated no differently than a fresh fillet that has never been frozen.

Because fresh yellowtail fillet prices vary tremendously with supply, Newfoundland processors have found that they could sell thawed fresh fillets at certain times in the market, when the prices were high enough, and at other times they were better off stockpiling frozen fillets for when the next selling opportunity arose. The ability to time the market, and the proximity to a major fresh fish distribution network in the Northeast, has allowed Newfoundland processors to keep this market.

For larger IQF fillets, the processing picture is bright. First, the throughput in the plant is high enough to cover the labour and overhead costs in terms of pounds of output per day or week. Secondly, the selling price of the frozen IQF fillets is higher than the smaller fillets. Foodservice

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customers who need portion control and want each piece of fish to be the same size are willing to pay a premium to get exactly the type of fillet they want. So in this example, the yield and market considerations mean that it is profitable to fillet a portion of the yellowtail catch, but not all of it.

This is what is driving some of the pressure to sell the small fish to China, which can be done profitably, but cutting the fish cannot be done profitably.

With redfish, there is much the same issue. Larger skin on fillets have an established market, and with the throughput and market support it is possible to process these fillets on shore in Newfoundland. But the smaller, under 300 gram fillets, are very difficult for processors that have high plant overhead costs. Redfish in this size range has not always been caught up to its quota, largely because there was no ability to produce and market the smallest size fillets. At the same time, there is a strong market for whole redfish in China and Korea, and there is a market for H&G redfish in Japan.

Much of the production going to China is from the Irminger Sea fishery for redfish. This production is keeping Chinese plants as competitors for twice frozen small ocean perch or redfish fillets.

With cod, there is also a quality dimension concerning what types of products can be produced. The frozen fillet and portion market demands the highest quality fish. Lesser quality fish goes to the salt fish market and to blocks. Some of the most sophisticated production plants in Newfoundland have been stymied because they have not been able to get the quality of cod needed to maximize the value of what they sell.

There is a significant market price difference between loins and tail IQF portions and standard frozen fillets, and blocks. Again, given the costs of the plant overhead and labour, to only be able to sell to the standard fillet and block market has limited the opportunities to make the plants profitable.



## **Product Forms Produced in Newfoundland**

From the product breakdown reported by the Province, we can see that for cod, the major products are salt fish, followed by frozen fillets, then by loin, tail and IQF frozen portion production, than by fresh fillets. Breaded products are not included in this listing because much of the raw material is sourced elsewhere from smaller fish. For redfish, the major products are dressed, then frozen fillets, then whole frozen. For yellowtail, the major products are frozen fillets, fresh fillets, dressed, and minced fish.

## **Current Market Prices and Market Conditions**

Like all other fish products, the value of the product form for groundfish and flatfish varies according to both market demand for the particular product, the cost of producing the product, and the supply of the raw material for that product.

For example, the high demand for cod loins won't matter if most of the cod landed is too small to produce loins and tails. Likewise, the strong prices for redfish fillets are primarily for the larger size fillets, and it is only during particular market conditions that the prices for small redfish fillets become strong enough to cover the cost of production.

When the highest value product cannot be produced due to these factors, value can still be obtained selling the fish in a lower value product form, i.e. as a dressed fish, whole round, H&G, etc. The point is that the proportion of fish processed into the highest value product form and the proportion processed into lower value product forms is not a static percentage, but one that fluctuates with market conditions, costs of plant operation, and supply. With this in mind, the following prices for various product forms represent a snapshot of current and recent conditions.

### *Cod H & G*

H & G cod, the raw material for salt cod, was selling at NOK 22.96 per kg (\$CA 3.93 per kg., or \$CA 1.78 per lb.) for a size less than 1 kg. Larger fish sold at higher prices with over 2.5 kg. per

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piece selling at \$CA 4.95 per kg, or \$CA 2.25 per lb. This chart also shows the rising price trend for cod H & G for the past 18 months.

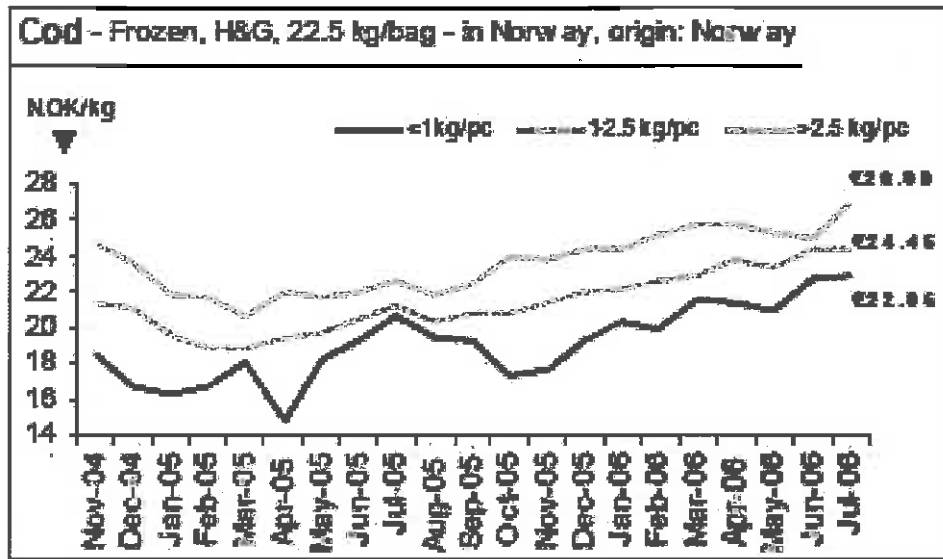


Figure 5 (Source: Globefish)

**Cod Fillets:**

For cod fillets, prices have also been rising. Figure 6, from Uner Barry Publications, shows the price for Atlantic cod fillets, both double frozen and frozen at sea. For double frozen 4-8 oz fillets,

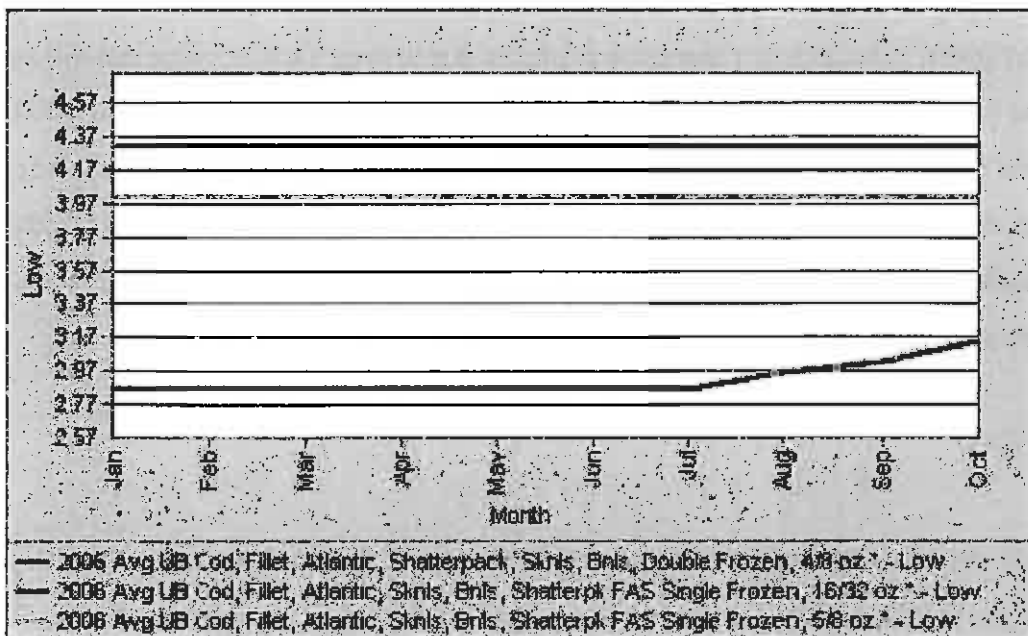
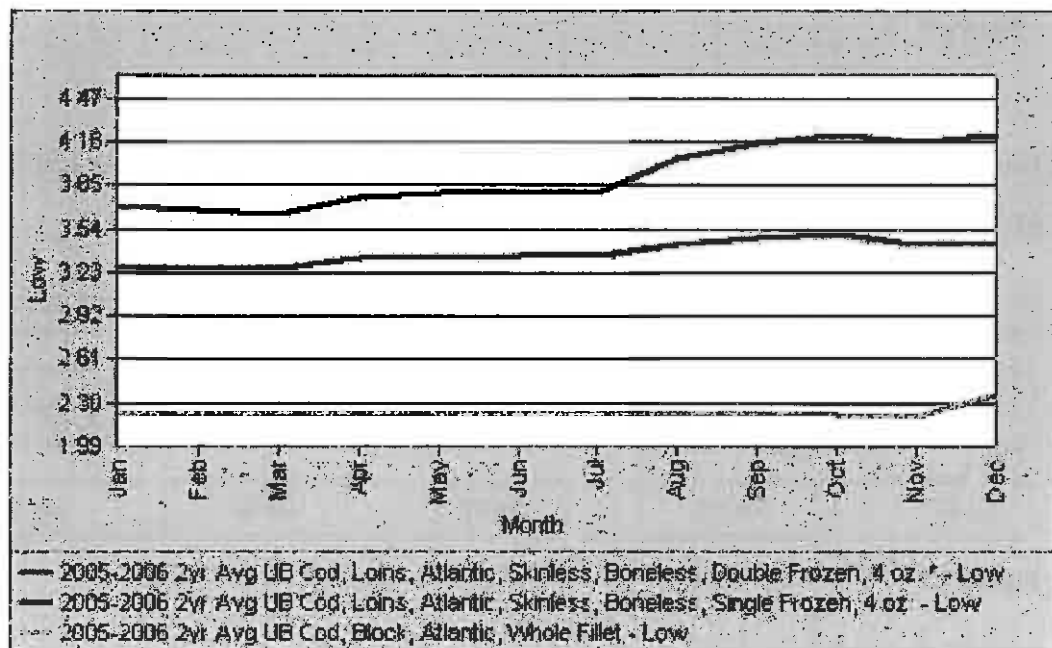


Figure 6

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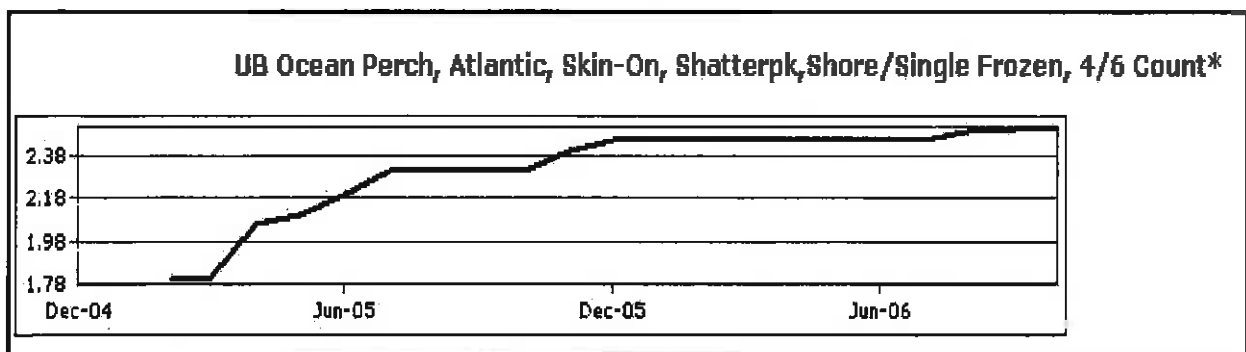
prices have been rising since July, and are around \$US 3.15 per lb. For frozen at sea fillets (single frozen), in the 5-8 and 16-32 oz sizes, prices have remained in the \$4.00 to \$4.35 range, depending on size.

For Loins and block prices, the same trend is evident, as shown in Figure 7. For 4 oz cod loins single frozen, prices are around \$4.18, while for the same cod loin, double frozen and processed in china, prices are around \$US 3.50. Cod block prices are around \$2.35 US/lb.



**Figure 7**

Some representative ocean perch (redfish) prices for skin on fillets are around \$2.55 to \$2.60 US/lb for skin on fillets. For shore frozen 4-6 count fillets, prices are around \$2.60 US/lb, as shown in Figure 8.

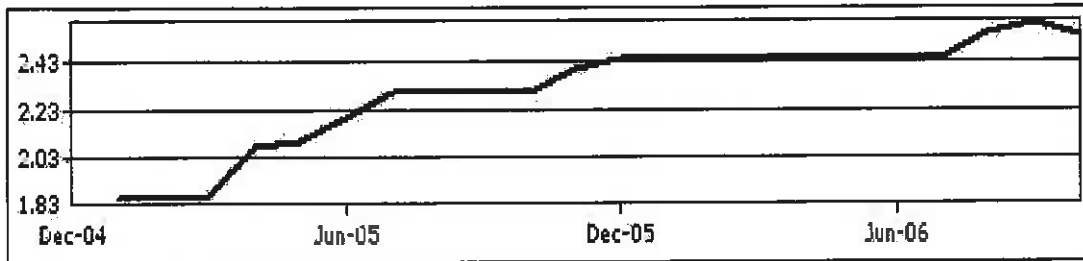


**Figure 8**

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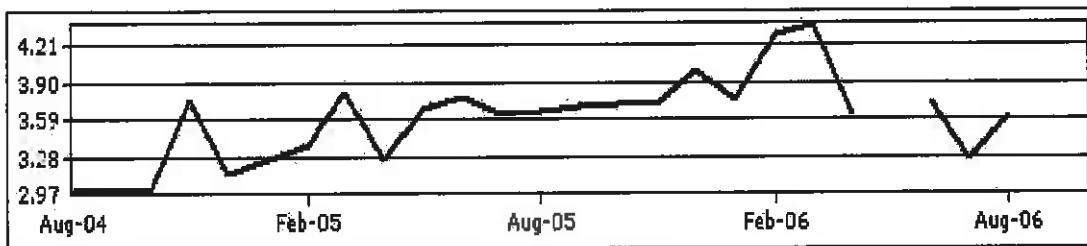
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For double frozen, small 2-4 oz fillets, Figure 9 shows that prices have mostly been around \$2.45 US/lb, but hit \$2.60 US/lb in September, and have since fallen back to about \$2.55 US/lb.



**Figure 9**

Fresh Canadian Ocean perch fillets, skin on, have been selling between \$3.28 and \$4.20 this past year, with some recent increase this summer, as shown in Figure 10.



**Figure 10**

For flounder, representative yellow tail prices are highly correlated with size. For shatterpack flounder fillets, 1.5 to 3 oz fillets are \$2.10; 3-5 oz fillets are \$2.45 and 5-8 oz fillets are \$2.90 (All prices in US/lb).

**Price Differentials Among Different Product Forms**

The market prices show clearly the price differences in whitefish due to size and product form. No analysis of processing can ignore the fact that a processing operation is going to have to find the right balance between the lower value, smaller sized fish, and the larger, higher value fish, and that if this balance is not in place, the operation cannot continue to be profitable. The key fact about these price differentials is that they vary depending on market conditions and inventory.

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Retailers generally are less concerned about the size of the fish fillets they sell. Foodservice customers, however, demand particular sizes for various types of menu items. As a result, when a needed foodservice size is in short supply, the price of that size can rise relative to the other fillets of the same species. Similarly, demand in Asia for whole fish can increase the price of dressed fish out of proportion to market prices for fillets of the same fish. In this way, the cost of raw material for filleting will rise, due to the higher demand for the whole fish. This can create a market imbalance as well.

### **Discussion of Minimum Processing Requirements in Terms of Market Demand**

In conclusion, the same issues exist with respect to groundfish and flatfish as exist with crab and shrimp. The market demand for specific product forms is dynamic, and at times it will make some product forms more attractive to produce than others. But in any case, there is a very clear correlation in groundfish between the cost of processing and the size of fish, and the value of the fillets and the size of fish.

Therefore, it is appropriate to consider the size of the fish as a limiting factor in considering whether it is suitable for processing, and if some stocks consistently produce small fish, those stocks will not support a profitable processing operation.

### ***Pelagics***

#### **Mackerel**

Mackerel is sold whole round by size. The following are representative prices for mackerel. Prices are in \$US per ton.

100-300 gm	\$500-\$600
300-500	\$750-\$900
200-400	\$700-\$750
400-600	\$900-1000

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600-800      \$1500-\$1700

The price is heavily dependent on quality. Mackerel that does not meet buyers need generally goes to bait. Mackerel cannot be too much on feed. There are two types of feed, generally called red feed and black feed, and the Japanese and the Asian markets will not accept mackerel that has black feed; but will take mackerel that has small amounts of red feed.

The principal markets are Eastern Europe, Japan, and other parts of Asia, like Taiwan. Eastern Europe will accept mackerel with some small amounts of black feed.

Most major buyers have inspectors who monitor the quality of what is being put up, and reject mackerel that is below their standard.

**Capelin**

The principal capelin markets are in Japan, Taiwan and Korea. In Taiwan and Korea, capelin is used for deep frying. It is also dried in Japan and put into various packs. There is even some used for sashimi.

Capelin also used to be used as zoo food, sold to various zoos and aquariums in the U.S. Some representative capelin prices in U.S. dollars per ton, are:

Females:

Over 60 (pieces per kg)	\$950-1150
56-60	\$1150-\$1300
51-55	\$1300-1550
46-50	\$1700-2100
41-45	\$1800-2500

Males are sold at around \$.18 to \$.25 per pound, to places like Vietnam and Taiwan.

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It is important to note that capelin prices are also impacted by quality. Lower quality capelin, which can happen when production is pushed to the maximum and capelin is being trucked around the Province, can be discounted from the above prices by up to 35%. Just as with mackerel, Japanese buyers won't accept capelin with high feed. If more than 10% to 15% of the fish are on feed, the Japanese will reject them.

