

Atlantic Fish and Seafood Tracking and Traceability Assessment

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The Atlantic Canada Opportunities Agency**

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1. Objectives

This report examines the current state of domestic and international markets in terms of their demands for traceability systems in the seafood industry. Such systems are increasingly important for the purposes of food safety, food bioterrorism, and expanding consumer information in their purchase decisions.

The report outlines:

- Current traceability demands in the marketplace;
- Anticipated and emerging demands for traceability;
- Tracking and tracing standards currently in use; and
- Existing systems that could meet future market demands.

The scope of the report covers end market users who will drive supplier systems. It examines the regulatory base in export markets.

The report is based on a literature search of regulations in place or proposed in the key export markets for Canadian seafood. It relies primarily on direct in market contacts with firms impacted by existing or proposed regulations at all levels of seafood distribution as well as government and associations representing collective groupings of the industry who are aware of and working on traceability issues.

The report provides recommendations for industry and government on some possible next steps pertaining to tracking and traceability.

2. Background

Canada's fish and seafood industry is a large and diversified export oriented business with commercial fishing processing and aquaculture operators throughout Canada.

In 2002 the fishery in Canada was worth more than \$5 billion a year providing approximately 120,000 jobs. There are 58,400 registered commercial fishers in Canada of which 42,700 are registered in Atlantic Canada. National landings are worth over \$2 billion of which the Atlantic regions represent approximately 84% or \$1.68 billion.

The commercial fleet is mostly small scale multi species operators utilizing some 24,000 vessels the majority of which are less than 65 ft in length.

Fish processing is an important component of the Canadian economy. There are about 1000 federally registered facilities producing a wide variety of value added products.

Canada's aquaculture sector has become a significant contributor to the overall fish and seafood supply base for end markets. This sector is rural based and utilizes increasing technology innovation. In 2003, Canada's aquaculture industry produced approximately 156,000 tonnes of products with a farm gate value of about \$585 million dollars. In

Atlantic Canada, the aquaculture industry produced almost 68,000 tonnes of product in 2003 with a farm gate value of roughly \$273 million in that same year.

Canada's seafood exports in 2002 reached an all time high of \$4.7 billion of which \$3.3 billion went to the USA. Japan and the European Union represented the bulk of the remaining exports but smaller amounts went to some 100 countries in total. Atlantic Canada's four provinces represented 70% of all Canada's exported seafood. The value of their exports expanded 104% over the decade 1993 to 2003 reaching \$3.174 billion in that year. In fact fish and seafood represents about 15% of all merchandise exports in 2003 from Atlantic Canada. Canada's aquaculture production over the similar period 1992 to 2002 rose from \$277 million to \$639 million. Salmon is Canada's major product and was 86% of total production value in 2002. Export trade is not tracked by production method but by the harmonized tariff code classification but it is safe to assume that salmon, oysters and mussels are all dependant on exports to the USA and elsewhere whether wild or aquaculture produced in the Atlantic region.

Canada is also a major importer of seafood items. Product forms such as canned tuna or warm water shrimp are not produced in Canada but are key import items. National imports in 2002 were \$2.18 billion. This generated a trade surplus in seafood of \$2.5 billion.

Canada's seafood industry must export profitably and must be able to meet end customer needs and market regulations. This includes the new traceability systems. If Canada is to continue its export market success it must meet customer demands and match if not exceed competitive supplier nations.

3. Traceability and Product Tracing

Some level of product tracing and traceability has existed in seafood production for many years. Revenue Canada as an example requires an auditable paper trail of revenues and expenditures for tax purposes and such records have to be retained for seven years.

The Canadian Food Inspection Agency and its predecessor Fish Inspection at Fisheries and Oceans have required some level of traceability related to product recalls for consumer health and food safety purposes. This provides a basic tracing system of purchases and sales to a customer and an end destination. They are however, rudimentary in matching and tracing the material supplies by vessel or from a country of origin against specific end products and customers.

A series of food scares and bioterrorism threats have caused many countries to move aggressively in developing product tracing systems and related regulatory controls. Such regulations now require traceability systems be used by the food industry (including seafood).

The Codex Alimentarius Committee on General Principles at their May 2004 meeting in Paris agreed on a revised definition of traceability/product tracing. The definition is precise and does not include objectives or principles that relate to specific applications: *“Traceability is the ability to follow the movements of a food through specified stages of production, processing, and distribution”*.

Traceability systems may include the origin of the materials, the processing, and the distribution history. In addition to the principle requirements of being able to trace products through the distribution chain, such systems can identify what the product is made of, and what has happened to the end product form. These aspects are important in food safety quality and labeling for the market. Some systems are strictly one up one down delivery and retention of data while other systems require common information to flow forward through every step of distribution to the final sale.

While every distribution chain has some unique characteristics most of the building blocks of traceability in seafood are similar whether the primary product is from the wild fishery or farm raised. Key differences in fish tend to be at the primary level where vessel data and area of catch would be essential for the wild fishery while location feeds medicinal or date of harvest would be essential for primary aquaculture fish.

Traceability in seafood has some unique needs driving the issue. Globalization trends have increased public awareness and concerns of environmental issues and the sustainable use of fish stocks from the wild. Environmental NGO’s have encouraged market pressure and the use of eco labels to distinguish in the market, fish products made from sustainable stocks. This requires the ability to trace raw materials to the end market products. Regulatory bodies overseeing fish stocks and their conservation are increasingly looking at *“certification”* systems that trace fish to the market to try and eliminate illegal, unregulated, and unreported fish harvesting. Species such as Sturgeon, Patagonian Tooth Fish (Sea Bass), and Southern Blue fin Tuna are currently examples of fish *“certified”* to be in trade.

Traceability and product tracing in seafood is not a new concept and for conservation and food safety reasons as well as providing consumers with more information on their product choices, it will expand in its use by the world’s seafood industry and the trade in seafood and fish products. In the short term some specific regulatory requirements will force far greater use of traceability on Canada’s seafood industry than the general needs of conservation.

4. International Market Regulations

4.1 International Market Regulations: USA

Two major pieces of legislation in the USA are driving traceability systems in seafood production.

The Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Bioterrorism Act) and its regulations have several requirements for improved traceability. The enforcement body for this Act is the Food and Drug Administration (FDA) of the USA. They have hands on inspection powers over USA processing of seafood as well as at all border points where seafood is imported into the USA.

The Bioterrorism Act's final rule on "*Prior Notice of Imported Food Shipments*" requires that notice of food shipments be confirmed electronically with the FDA not more than five days or not fewer than 2 hours if imported by land, four hours by air or rail, or eight hours by water. Such a notice must include:

- Identification of the submitter;
- Identification of the transmitter;
- Entry type and Custom Border Protection identifier;
- Identification of the article including brand name, quantity and lot code;
- Manufacturer;
- Grower if known;
- FDA country of production;
- Shipper;
- Anticipated arrival by port of entry, date and time;
- Identification of the importer, owner or consignee; and
- Carrier.

The Bioterrorism Act's Rule on "*Establishment and Maintenance of Records*" has requirements regarding the establishment and maintenance for not more than two years of records by persons (excluding aquaculture farms or restaurants) who manufacture, process, pack, transport, distribute, receive, or import food. The records to be kept are those needed for inspection to allow the FDA to identify the immediate previous sources and the immediate subsequent recipients of the food including its packaging (one up, one down traceability). Such records can be in paper form or electronic form. Records on perishable goods must be kept for one year and for non-perishable foods for two years.

The USA Farm Security and Investment Act of 2002 (Farm Bill) requires retailers to notify their customers of the Country of Origin of covered seafood commodities as of September 30, 2004. The consumer must also be made aware whether the covered commodity is "*wild or farm raised*". This is not seen as a food safety measure but for consumer information to assist their choice of food to purchase.

There had been some question of interpretation as to exactly what product forms were to be covered by COOL but the new Interim Final Rule is specific now on what product forms are covered for such labeling. They must be grown or harvested in the USA or by a USA flagged vessel and processed in the USA to retain "product of USA designation". (See Annex II for review of Interim Final Rule on Country of Origin.) The new Rule came into effect October 1, 2004 but product will not be covered until April 4, 2005 and such fish and shellfish must have been harvested after December 6, 2004. Food service

establishments and specialty retailers of fish or full retailers with sales of less than \$230,000 are exempt from COOL.

Verifiable auditable records must be maintained by any person engaged in the business of supplying a covered commodity to a retailer. Records must be maintained at the store level for the period of time the product is for sale and then for one year at the retailer's offsite location such as its headquarters. Enforcement is to be a federal activity in conjunction with state authorities under agreement with the USDA or in response to consumer complaints. The section of this report on "retailers" will outline actions, impacts and implications to Canadian suppliers in more detail.

4.2 International Market Regulations: European Union

The European Union Directive 178 of June 28, 2002 on General Product Safety was a broad reaching regulation that will affect every food business in the EU as well as food imports including seafood. The directive will legally oblige firms to guarantee "*the traceability of food, feeds, food producing animals, and any substance intended to be incorporated into a food or feed shall be established at all levels of production processing and distribution*".

New directives EC 852, EC 853 and EC 854 of April 29, 2004 have been implemented to give greater detail on how to meet the food quality and traceability standards of the earlier directive 178. They take effect January 1, 2006. (See Annex III for a brief outline of seafood issues.)

Competitive seafood producing nations like Iceland and Norway are moving quickly to meet these new regulations. One example is Iceland using Radio Frequency Identification Devices (RFID) in the fish boxes on vessels which then move with the fish through auctions to the processors. Processors then apply their own tracing systems to the end products as they move into distribution. Norway also is developing tracing systems with major emphasis on the farmed fish industry.

4.3 International Market Regulations: Japan

Japan has new traceability laws which apply to beef but these are not seen as needed for the seafood trade at this time. Japan does have a series of labeling laws which require country of origin and consumer disclosure of method of productions. (See Annex IV Traceability Regulations in Japan for more detail.)

Seafood exports from Canada to Japan are almost without exception in a bulk format to an importer or processor who takes on the responsibility of traceability and correct labeling of the in-market products. Market pressure rather than regulations will push Canadian exporters to have greater capability to trace seafood sold to the Japanese market with an emphasis on the primary production information.

5. Domestic Market Regulations

5.1 Domestic Market Regulations: Canadian Provinces and Federal Departments

To date Quebec is the only province to develop mandatory traceability programs in the food sector and at this time it is restricted to trade in beef products. Traceability for the trade in live animals as well as veal and meat products will be required in 2005. Quebec producers are very familiar with the system being developed and are ready to meet the implementation dates. Retailers operating in the market are developing matching systems but have no plans to roll them out to other provinces in Canada unless a regulatory mandate requires this. This is in response to the cost implications of the process.

The cost implications of traceability are being outlined in pilot studies being done by producers and retailers under the review of the Electronic Commerce Council of Canada (ECCC). These are being funded by Agriculture and Agrifood Canada (AAFC). Such projects implemented by the ECCC can not include seafood or fish as it is not in their budget. Resources and a different delivery mechanism are needed for seafood pilot tests. At this time, no equivalent activity on seafood systems is being undertaken.

5.2 Domestic Market Regulations: Quality Management Program

Canadian seafood processors in either inter provincial trade or in export trade must be inspected by the Canadian Food Inspection Agency (CFIA). In the 1980's while inspection was still a DFO function the trade in conjunction with DFO developed an inspection program (QMP) based on the concept of Hazard Analysis and Critical Control Points (HACCP). This program moved with inspection to the new Canadian Food Inspection Agency which was created to centralize all food inspection functions in Canada. CFIA by mandate implements the Fish Inspection Regulations of Canada.

QMP has many elements of traceability built into it primarily for recall purposes. This program is what many processors are relying on to meet traceability needs in the market. As each subsequent market requirement comes into being some changes are made to QMP in-plant activities. Including the plant registration number as required for the FDA and to meet prior notice rules in entering the USA is one example. Adding a purchase order number of an end customer to a shellfish bag tag which is required under the QMP so that the USA customer has more information for the purposes of meeting the Country of Origin Rule is another example of adding to the QMP elements and blending the needs of the two programs. (See Annex V for QMP tracing requirements.)

6. Sector Analysis of Traceability

This section looks at the impacts on the various sectors of the industry of the market regulations reviewed. It starts with key customers who are pushing their needs down on to the Canadian supplier base.

6.1 Retail in USA and Canada

USA Retail Impact of Country of Origin Labeling (COOL)

General Issues

- All chains are waiting for the final rule to see details of the program. This is now in place and chains can begin definite plans and actions to meet the April 4 2005 deadline. The final rule is very similar to the proposed rule of April 2004 and thus the actions of chains outlined here will be consistent based on the Interim Final Rule. There will be a further delay in enforcement beyond April 2005 and “compliance” will be phased in while an outreach and education program is put in place by USDA.
- All chains feel that COOL will be policed at the store level by a mix of State officials, federal bureaucrats (complaints) or by citizens perhaps looking for issues relative to aquaculture, or local fishermen losing markets. State intervention in this area is problematic to many retailers who operate in several states and see uneven enforcement.
- No store can afford to be targeted as not performing on behalf of their consumers as the market is too competitive and the store’s image with the customer is important. Many are public stock firms with a share price to protect.
- All chains are expending big dollars (millions) on newer better electronic data systems.
- All chains are adjusting current inventory and purchasing systems to accommodate COOL and each feels their system is a bit unique. However, in spite of the problems this holds for distributors, they are each going with their own system.
- All chains think that some suppliers cannot or will not meet their needs and they are determined to live with this outcome. One respondent was quoted as saying that he was “purchasing by liability rather than quality or price”. Enforcement actions and fines plus the stores image outweighed just seeking the best price and value from a supplier.
- All believe that one bottom line outcome will be a reduction in suppliers and in some cases perhaps even countries of supply.
- All believe the hardest hit will be the small USA vessel or plant who now sells to retail as their volume will not justify meeting the new requirements of the chains.
- All think that the processors and distributors they are dealing with are trying (Canada and others) to meet COOL but some will not be successful.
- Most chains have made their initial needs known to the industry but are not pushing until the final rule is known.
- All chains are looking for clear concise marking on boxes or carton that go to the store level (COOL and designation of wild or farm raised) plus the appropriate paperwork or electronic information that goes to headquarters.

Unique issues

- Some chains are getting a letter of indemnification signed by their suppliers as legal protection against possible fines for errors. Some Canadian firms have been asked to sign off on such a letter. The Interim Rule applies a “reasonable” clause if the retailer could not have been expected to be aware of any violation.
- Some chains invoice individual stores on their goods received and this will be the system of record keeping as they make up mixed loads from suppliers.
- Some chains will have to install new scale code systems in every store using an IT technician which will take a few months. Now that the Interim Final Rule is known and the implementation date is delayed until April 4, 2005 they will have time for such system changes.
- Intermingled products like live lobster will need identification and some have asked live lobster suppliers to identify the country on the band or use a color band system (blue for USA, red for Canada). This will require development time and yet to be determined costs.
- Some have asked or will be asking processors to include an “in carton” message to either mark the bin tray or tank or in some cases to just assist the store associate who may be filling trays in a cooler. This will assist in getting the information for the consumer right. For example Mahi Mahi currently is assigned one code number but may come from Ecuador, USA or Costa Rica. Now each supply will require its own code number, its own tray in the counter and its own COOL label in store.
- Some chains will drop suppliers as their internal systems can not handle the new number of SKU’s involved (Stock keeping units). An item like frozen shrimp may come in several forms, several count sizes and now several countries of supply, all of which will greatly expand the SKU numbers required.
- Some chains have been repacking inventories or stickering to be shelf ready for October 1, 2004 but the new Rule will only cover fish harvested after December 6, 2004.
- Some proposed distributor systems have been reviewed and rejected as incompatible to the store system.

Canadian Retail Impacts of Traceability

- Most chains state that the system they finally adopt will have to work for all items covered by traceability as they can not afford the cost of unique receiving area programs by category. One estimate was as much as \$ 0.06 to \$0.30 per carton scanned at receiving.
- Chains with USA outlets are not working on dual systems at this time.
- Some chains control the distribution to store level with their own fleet from central warehouses and freezer storages. This will simplify their record keeping systems.
- Some chains currently have limited knowledge of the work by ECCC on a bar code system similar to the European Union but are willing to look at adapting it to their own internal systems.

6.2 Distributors in USA and Canada

- Some distributors are receiving letters of indemnification to sign from retailers.
- Some are also asking their suppliers in Canada and other markets to sign a similar letter of indemnification. The Interim Final Rule also applies the “reasonable rule” to distributors in that they will not be liable if they could not have reasonably been aware of a violation.
- Distributors receive numerous lots of a similar product, for example white shrimp, shell off, 60 to 100 counts, come from numerous suppliers. Keeping distinct records in order to ship partial lots to end retail store is a very complex business in order to meet COOL versus pre COOL systems.
- Distributors often store similar goods in both their own freezers and public storages. Each will have their own system and most public cold storages use a lot code system to distinguish ownership.
- Distributors often fill an order for retail from both types of storage such that their system has to combine the information including method of production on common paper work from various sources. For example 200 cases may be in a storage bin and only 12 are used for an order to retail.
- Distributors need to then maintain a data base on goods or lots received into each storage and then match the goods shipped to a purchase order form of a particular retailer and match a bill of lading to the actual transport to a particular store location. This has required new data systems at all major distributors in the USA.
- Distributors with significant retail business are working on new systems now as well as data storage systems that will be auditable in the future.
- Many distributors are passing the purchase order number to their suppliers who must record the data and production method on masters as well as on paper work that accompanies the shipment.
- Smaller distributors are going to rely in the short term on a paper work system or some modification of their current invoicing and shipping systems. For these firms it will be important that the packaging produced in Canada to carry the country of origin and method of production to the store level.
- Very little information has been conveyed to small and medium distributors and most have not raised the issue with their Canadian suppliers yet.

6.3 Importer/Distributors in Canada

- Most importer/distributors in Canada are finding a real mix of capabilities and sophistication levels in their offshore processor suppliers.
- Some foreign firms particularly in aquaculture have complete traceability systems in place now even if the supplier is from a third world country. Other suppliers are not ready for COOL in the USA.
- Canadian firms are using the products of the offshore firms who have complete systems if the product is for the USA market or for Canadian retailers who are asking for traceability.

- Some distributors are finding they have a competitive edge in supplying the market over Canadian processor direct sales based on the traceability systems their offshore suppliers have.
- It is likely that these same offshore firms are ready and planning on direct USA sales under COOL rules. How this might impact supply to Canadian importers is unknown.
- Products from less sophisticated suppliers offshore are used for price sensitive end customers.

6.4 Importer/Distributors in the European Union

- Most importer distributors in the EU feel the new regulations will effect how they implement traceability.
- Most importers feel there are hidden costs in these new systems but can not pinpoint them at this time. How extra costs will be split between producers in Canada through price pressure or push such costs on to consumers is unknown.
- None of the distributors have communicated changed needs to Canadian suppliers at this time.
- No distributor could explain how the “*identification mark put on under third party control*” would work in a practical sense.
- This will require Canadian government involvement in discussions with the EU.
- Most plan to keep traceability records for up to seven years to match tax rules. No one was sure if this meant Canadian suppliers needed to keep records for a similar period.

6.5 Aquaculture Production

- Major Canadian production firms are already collecting the records and keeping the data regarding feeds, medications, customers and other production inputs. Larger firms feel that they will meet all COOL requirements. Smaller farm operators while they may have a record keeping procedure have less expertise in IT systems. They are relying on a mix of electronic data and paper systems to meet market traceability.
- Master packaging particularly on salmon is being amended to include the method of production.
- Production for the fresh counter at retail, of in-store consumer ready packs to be sold in the USA will have to have stickers added in Canada at the time of manufacture. This is a new cost as yet undetermined but operators see it lessening flexibility to sell such products once they are stickered.
- Shellfish growers are also well advanced based on the requirements put in place after the domoic acid scare. Product is also traced from the grower lease number, the grower name and area of production. This information stays with the product in the form of a tag on the shipping container. Sales are currently kept by distributors and or retailers for anywhere from three months to two years.
- Some customers are now asking for “*best before dates*” as well as the COOL data on shipments.

- Large retail distributors are now being asked to include some form of sticker in the carton or in a pouch on the carton for use by store employees.
- Even large Canadian producers of aquaculture fish have not focused on the EU directives at this time but feel that their Norwegian competitors who rely more on EU sales than the USA market are further advanced to meet the new EU directive needs. Most EU distributors are using the 128 digit bar code system.

6.6 Wild Fishery

- Canadian vessel operators and the primary sector have not focused on the issue of traceability. The one exception may be the large vessels that now require a QMP plan.
- Smaller processors who themselves sell through distributors in end markets and these same distributors tend to be focused on food service sales have not heard about any specific needs to meet new end market regulations from their distributors in either the USA or European Union.
- Some processors particularly those who sell direct have been approached to sign letters of indemnification for their retailer customers. Others have broad sales agreements which will cover issues such as in carton information inserts.
- Fresh fish suppliers seem to be the most problematic as the product tends to sell at retail requires different packaging, and will meet request for in carton material. Most of this fish goes from Canada to the end market through distributors in the USA.
- Some questions existed among frozen product suppliers to the USA as to which products were exempt from COOL but the Interim Rule has not only added clarity but has exempted a lot of product forms such as canned sardines and cured fish.
- One example might be that breaded fillets are exempt and now breaded shrimp a similar product is also exempt. Items such as one pound retail packs of dried salted fish are now exempt as curing is now an allowed process. Any product not exempt will need to have its packaging purchased and on hand with the new designations on it in time to meet the December 6, 2004 use date and the April 4, 2005 implementation date.
- In a few cases to date the Canadian costs of COOL requirements have been passed on in higher prices to the USA market but most feel this is an exception and not the rule for the future. The USDA economic analysis points out very few benefits or expected consumer premiums from COOL labeling.
- Vessel regulations in the new EU directives are very problematic. DFO feels that such inspections of vessels for food safety reasons are outside their domain and could not be a condition of license. CFIA has neither the budget nor manpower to begin to inspect and certify some 24,000 vessels and their production of fish. However CFIA will be certifying that the products being exported meet the EU regulations.
- Currently CFIA is trying to arrange a system to audit production on QMP registered vessels using on board observers.

- Receiving systems at processors vary widely and the ability to ensure that the fish from a single vessel is tracked to the end products is questionable for many processors.

7. Summary and Conclusions

The following is a summarization of the key dates for the implementation of tracking and traceability regulations in Canada's major fish and seafood markets around the world:

- The Final Rule on plant registration under the Bioterrorism Act took effect on December 12, 2003. The Interim Final Rule on Prior notice took effect on December 12, 2003. The full enforcement of the Prior Notice Rule took effect on August 12, 2004.
- The COOL law took effect on October 1, 2004. The interim Final Rule on COOL will apply to fish caught as of December 6, 2004. The Interim Final Rule on COOL comes into effect on April 4, 2005. Enforcement of COOL post this date will be phased in under a "compliance policy" not yet published.
- The European Union Directive 178 takes effect January 1, 2005. The Directives 852, 853 and 854 will apply no sooner than January 1, 2006.

The main conclusions of the report are the following:

- 1) Traceability is part of any good quality management system such as the Quality Management Program in all Canadian exporter plants. As such no processor is against traceability systems. If further amendments are needed to the existing QMP to meet end market export needs they should be looked at and incorporated across the board into the QMP system. Industry needs to open such discussions with CFIA in 2005.
- 2) Canada's seafood industry is currently prepared to muddle through customer requests for traceability by adapting and adding to the existing QMP requirements.
- 3) Canada's seafood industry with the exception of some large aquaculture firms is not involved in developing sophisticated technology traceability systems such as bar code readers or Radio Frequency Identification Devices. These implants are already widely used in the Icelandic industry traceability system. A funding base outside of AAFC needs to be identified by government to provide some support for the seafood industry similar to that received by agrifood systems.
- 4) Canada's seafood industry needs to continue to track the work on the bar code system under development by ECCC with AAFC support. This system will likely be used by Canada's meat industry and is widely accepted in the EU. Seafood needs to stay engaged in the ECCC process.

- 5) Short term COOL regulations in the USA can be met by adapting current paper systems and by developing better data storage systems. Much of the current packaging will have to be identified for COOL purposes as it moves through the distribution channels.
- 6) Customer requests in the USA to have suppliers assist them with in store activities, (agreements, indemnifications, in carton materials, promotion to maintain market share, lobster banding) go way beyond the regulations of COOL and will be expensive but essential to keep retail customers.
- 7) Some Canadian processor firms or even USA distributors may choose not to sell to retail. USA retailers will reduce their supplier base for cost efficiencies.
- 8) Ultimately RFID tags are the best tracking methodology but currently such chips and their readers are too expensive for broad inclusion in traceability systems. Industry needs to monitor their use by our competitors.
- 9) Over time, as existing regulations are implemented or expand in both the USA and Canada to include more than seafood or beef in Quebec, the retail trade will want only one system for all products they handle. In the USA seafood is the test product as other meats and produce do not have to meet the COOL requirements until October 1, 2006. In Canada with desire to open the border post the BSE incident the meat industry with AAFC support is driving the traceability program. It is unclear at this time how this dual push will determine final systems in both countries.
- 10) Vessel issues to meet the European Union directives is a major issue that CFIA, DFO and the industry need to work on in 2005 in order to certify export products in 2006.
- 11) Industry costs are not well defined at this time but costs will include new and in some case more expensive packaging. Certain products such as retail ready packs will have extra packaging costs and less flexibility in sales which may lower margins. New and improved Information Technology systems will be required in the long term and will be expensive for smaller operators who currently use paper systems. In some cases they may exceed the margins on limited retail sales putting such operators into exclusively food service sales. As major customers like Wal Mart require Radio Frequency Identification Devices on palettes this new cost will push some to not sell to these particular customers.

8. Recommendations

- a) Now that the Interim Final Rule is completed for COOL in the USA, Canadian industry needs to approach their distribution system in the market to identify

specific needs or deficiencies in their current traceability systems. Changes need to be in place for December 6, 2004 production.

- b) Canadian companies that export to the European Union need to approach their EU customer base to see what specific changes may be needed in their current traceability systems.
- c) Atlantic Canada's fish and seafood industry needs to stay engaged with AAFC traceability work but it needs to seek bureaucratic and political support to treat fish as food and be eligible for technology development funding in order to begin now to create next generation traceability systems. Right now the spread in technology development in both the aquaculture and wild fishery industries is very pronounced based on corporate size with smaller firms being far behind. While the entire industry is "*getting by*" with current QMP systems the next level of technology requirements by end customers or regulators will eliminate many small and medium size processors or vessels who market directly to end customers, or some product forms which do not have sufficient margin to fund development.
- d) Atlantic Canada's fish and seafood industry needs to set up a process to review the pilots being undertaken by the ECCC on meat and produce to generate lessons learned and to ensure that any future development work undertaken by seafood is consistent with and learns from the mistakes and problems of this completed work.
- e) Atlantic Canada's fish and seafood industry needs to work collectively on end market demands for cost efficiencies in traceability systems. Examples might be bar code printers on vessels, readers of bar codes, edible die on lobster banding, tracking RFID technology and its use by competitors.
- f) The Canadian government needs to start work now on vessel inspection systems to meet the EU market needs with an emphasis on EU market dependant product such as cold water shrimp and lobster. Other fisheries can be phased in as needed. This work should be undertaken in conjunction with the effected industry firms, DFO and CFIA and then the industry needs to engage the primary sector broadly on possible needs, changes and outcomes of the government discussions.

Annex 1: Contacts and Interviews

The report is based primarily on telephone interviews with people dealing with the traceability issue in effected firms, at associations or in government. Some contacts were in meetings and a few in Europe were by email exchanges.

In the retail sector of the USA market six major firms with regional strengths were contacted. Two Canadian retailers were interviewed.

In the distribution sector the emphasis was on the USA with eight firms from this market interviewed. These firms had a mix of national coverage and some were regional in their customer base. Two Canadian firms with USA exports were the emphasis. The four European Union firms operated in several member nations.

In the Canadian Atlantic region eight processors using wild harvested raw material were interviewed. They were of various sizes and covered all the Atlantic sub regions. In aquaculture five major firms were interviewed.

Six industry associations were contacted including the two national bodies for wild processing and aquaculture operators. In addition regional bodies working on traceability were interviewed. The membership of these associations cover a wide range of geographical areas and have member firms of all sizes in both the wild and aquaculture business. The USA seafood industry association which has worked on both the Bioterrorism Act and the COOL Interim Final Rule was interviewed on an ongoing basis to check market perceptions.

In government, the key fisheries representatives in the European Union were contacted for inputs as well as meetings held with line department representatives in Ottawa.

Annex II: Country of Origin Labeling (COOL) in USA

Interim Final Rule of October 1, 2004

The Farm Security and Investment Act of 2002 (Farm Bill) will require retailers to notify their customers of the country of origin of covered seafood commodities as of September 30, 2004. The Interim Final Rule was established October 1, 2004. Comments will still be taken on this Rule but it will serve as the basis for USDA action pending a Final Rule at some future point in time as yet unknown.

As of September 30, 2004 the covered commodities are farm raised fish and shellfish, as well as wild fish and shellfish. Meat and other products will not be covered until September 30, 2006.

Any person engaged in the business of supplying a covered commodity to a retailer shall provide information to the retailer indicating the country of origin of the commodity as well as the method of production (wild versus farm raised). Suppliers will need to ensure that documentation is complete and properly maintained.

Background

The intent of this law is to provide consumers with additional information on which to base a purchase decision. It is not to address food safety or animal health concerns.

For farm raised fish and shell fish, if the covered commodity is to be labeled Product of USA it must be from fish or shellfish hatched, raised, harvested and processed in the USA. In the case of wild fish and shellfish the product must be from fish harvested and processed in the USA or caught by and processed on board a USA flagged vessel.

The Country of Origin declaration must also distinguish between wild and farm raised fish and shellfish.

A retailer with sales of over \$230,000 in a calendar year will fall under the regulations for COOL.

Covered Commodities

The law excludes items from bearing a country of origin declaration when the covered commodity is an ingredient in a processed product. A retail item which has undergone a physical or chemical change causing it to be different from the covered item will be deemed to be a processed product and thus excluded.

The Interim Final Rule extends this exemption to more forms than the Proposed Rule. Exclusions now include; ingredients in a processed item, processed products that have undergone a specific process or are combined with one other covered commodity such as breeding or tomato sauce.

Processes that change the character now include cooking, broiling, boiling, steaming, grilling, baking, roasting, curing (salt sugar or drying), smoking (cold or hot), restructuring (emulsifying, extruding, compressing, cutting into pieces). Examples of excluded products are fish sticks, surimi, mussels in sauce, soups, sauces, pates, smoked salmon, marinated fillets, canned tuna salmon or sardines, and breaded shrimp. For any product in question processors may seek clarification from USDA's Agriculture Marketing Service.

Wild and Farm Raised Imported Commodities

Currently under the Tariff Act of 1930 most imported food are required to be marked with the country of origin and provided to the "ultimate purchaser". US Customs and Border Protection administer the tariff act. The ultimate purchaser is defined as the person who receives the item in the form in which it was imported. Thus a retailer could receive a box of product marked with a country of origin and then display the loose product in a bin selling each piece without a country of origin. This new law will cover commodities whether individually packaged or displayed in a bin.

Currently under the Tariff Act if an article is destined for a USA processor where it undergoes substantial transformation (line shift in the tariff code) that processor is considered the ultimate purchaser. Under this proposed rule imported covered commodities which are imported must maintain the Country of Origin declared to the Custom Border Protection Authority at the time of entry to the USA provided it has **not** undergone Substantive Transformation in the USA. For example fish caught in USA waters by a USA flagged vessel then filleted in China would be imported as "product of China" and identified at retail as such. If the product has been substantively transformed in the USA the covered commodity shall be labeled as "from Country X processed in the USA".

In either case the product must be labeled to indicate that it was derived from wild or farmed raised fish or shellfish.

Method of Notification

Country of origin may be provided to consumers by a label, mark, placard or other clear and visible sign on the covered commodity or its package, display, holding unit, or bin holding the product at the final point of sale. The notice may state Product of the USA, Product of Mexico, or just the country, for instance "Mexico". Cool and the method of production may be separate or combined, for example "Wild Canadian Oysters".

The method of production can be "wild, wild caught, farm raised or farmed" or combined if in a blended product. It shall be conspicuous and allow the consumer to determine COOL as part of their product choice.

Recordkeeping Requirements

The law states that any person who distributes a covered commodity for retail sale may be required to maintain a verifiable recordkeeping trail. The Interim Final Rule states that *any person engaged in the business of supplying a covered commodity to a retailer directly or indirectly shall maintain records to establish the immediate previous source and the immediate subsequent recipient of the product. (One up one down traceability).*

*For imported products the importer of record as determined by Custom Border Protection Service(CPB) shall ensure that records provide a clear product tracking from the port of entry to the immediate subsequent recipient, and substantiate the country of origin claim and the designation of wild or farm raised. Such records shall be maintained for **one** year which is a major reduction from the proposed rule.*

For suppliers to retail that handle similar covered commodities from more than one country the supplier must be able to document that the origin of the product was separately tracked.

For retailer's records of country of origin and designation of wild or farm raised must be maintained while the product is at the point of sale and for 1 year at the retailer's point of distribution, warehouse, central office or other offsite location.

Any intermediary supplier of product found to be designated incorrectly shall **NOT** be liable if they could not have reasonably expected to have been aware of the violation. Retailers are **NOT** liable if they could not have reasonably been expected to have been aware of the violation.

Enforcement

The Interim Final Rule will become effective **April 4 2005**. The Rule applies to fish caught after **December 6, 2004**. USDA will have an industry outreach and education program in this six month period.

The law encourages the Secretary to enter into partnerships with states for enforcement. Only USDA will be able to initiate enforcement actions.

USDA may conduct investigations of complaints made by any person alleging violations of these regulations.

A retailer in violation must be notified and provided 30 days to take the necessary steps to comply. Willful violation after such notice may result in fines of not more than \$10,000 for each violation.

The Agency will publish a compliance guide to provide information on compliance, and the phasing in of active enforcement.

Economic Impact Analysis

Note: USA covered firms for seafood as estimated by USDA

	<u>Firms</u>	<u>Establishments</u>
Farm raised fish and shellfish	3540	3540
Fishing enterprises	76499	76452
Product preparation	741	823
Wholesalers	2897	2980
Retailers	4512	37176

The research completed by USDA indicate that consumers are not willing to pay a premium for COOL. Nor will they increase their consumption of foods bearing a “product of USA designation”. USA producers will not receive a premium for USA labeled fish and seafood.

USDA expects that the production level (harvesting) will need to create and maintain records on products they sell and transfer to fish handlers of their products.

USDA assumes that all sales by intermediaries such as packers, processors, wholesalers, and importers will be impacted by COOL.

The study notes that 58% of fresh and frozen fish and 38% of shellfish are eaten at home and thus sold at retail.

Annex III: General Food Law Regulations in the European Union

The following short recap of existing regulations in the European Union and their implications to seafood exports from Canada is based on a series of regulations. It is a primer on the section applicable to seafood but in general the overall regulations have far reaching implications to all food exports to the EU.

In some cases the new regulations will replace a series of existing rules which will have to be removed from the legislative base in the near future.

The recap is a collection of quotes from the regulations for the purpose of setting the background on “traceability in seafood” in Canada in order to meet these requirements.

Regulation EC 178/2002 Jan 28, 2002

This broad reaching regulation was created to lay down the requirements of food law establishing the European Food Safety Authority and to lay down procedures in matters of food safety. It allowed the EU to include such new ideas as the use of the “Precautionary Principle” in food law. Some of the key issues are the following:

Definitions

Traceability means the ability to follow a food, feed, food producing animal or substance intended to be incorporated into a food or feed through all stages of production, processing and distribution.

Stages of production means any stage including imports, including the primary production of a food up to and including storage, transport and sales to the final customer.

Primary production means growing, harvesting, milking and farmed animal production prior to slaughter. It also includes hunting, fishing and the harvest of wild products.

Article 18

Traceability shall be established at all stages of production processing and distribution. Systems shall be in place for this information to be made available to the competent authority of a member state.

Food shall be adequately labeled to facilitate traceability.

Articles 14 – 20 shall apply from January 1, 2005.

Regulation EC 852/2004 (April 29, 2004)Article 20

Traceability of food and food ingredients along the food chain is an essential element in food safety. Regulation 178/2002 contains rules to ensure traceability of food and food ingredients.

Article 21

Food imported to the community is to comply with the requirements of 178/2002

Article 25

The requirements of this regulation should not apply until all parts of the new regulations on food hygiene have entered into force.

Article 2 (B)

Primary products means products of production including products of the soil stock farming, and fishing.

Article 4 (C)

Food business operators shall retain any other documents and records on production for the appropriate period and shall make such documents available to competent authorities as requested.

The regulation shall apply no earlier than January 2006.

Annex I Part III

- (7) Food business operators are to keep and retain records in an appropriate manner for an appropriate period commensurate to the size of the food business. Information in these records shall be available to competent authorities.
- (8) Food business operators producing primary products of animal origin shall keep records on:
 - Nature and origin of feed fed to animals;
 - Veterinary medicinal products administered;
 - Occurrences of diseases;
 - Results of any analysis; and
 - Checks carried out on any animals.

Regulation EC 853/2004 of April 29 2004
Specific Hygiene rules for foods of animal origin

- (15) The traceability of foods is an essential element of food safety. In addition to Regulation 178/2002 *food business operators shall ensure that all products of animal origin that are placed on the market bear a health or identification mark.*
- (16) *Food imported into the European Union is to comply with 178/2002 or satisfy rules equivalent to the community rules.*

Article 5 Health and Identification marking

Food business operators shall not place on the market a product of animal origin unless it has either a health mark or an identification mark in accordance with Annex II, noted below, of this regulation.

Article 6

Food business operators importing products of animal origin from third countries shall ensure that the country appears on a list of countries from which imports of that product are **permitted**

The establishment from which the product was dispatched must be on a list of **establishment** from which imports of that product are permitted.

In the case of live bivalve mollusks the production area must be on a list drawn in accordance with article 13.

Annex II Section I

Identification marks must be applied before the product leaves the establishment. Operators must in accordance with Article 28 178/2002 have in place systems to identify from whom they received and to whom they delivered the products.

The marks will be legible and indelible.

The mark must indicate the name of the country in which the establishment is located using the full name or the two letter code.

The mark may be on the product, the packaging or on a label or on an irremovable tag.

Annex II Section VIII Fishery Products

The requirements of this section supplement those in 852/2004.

In the case of the establishment including vessels engaged in primary production they supplement Annex I and II of this Directive.

Primary production covers farming, fishing, and associated operations if carried out on vessels; slaughtering, bleeding, heading, gutting, finning, refrigeration. They also include transportation and storage of fish, the nature of which has not been substantially altered to the first establishment of destination.

There follows in Chapter II a series of detailed activities and rules for vessels, including **all vessels**, vessels which hold fish over 24 hours, freezer vessels, and factory vessels.

On board handling practices are outlined.

Offloading requirements and auction requirements are detailed.

Chapter III outlines requirements for establishments including vessels handling fishery products. These include fresh fish, frozen fish, mechanically separated fish products, parasites, processed fish products, and health standards such as Histamines and toxins

Chapter VI deals with **packaging** issues.

Chapter VII deals with **storage** issues.

Chapter VIII deals with **transport** issues.

Regulation EC 854/2004

The health mark means that the mark was applied when official controls had been carried out.

Audits shall verify that operators applied correct procedures in relation to food chain information, premises and equipment, and personal hygiene.

Article 14

A document meeting the requirements set out in Annex VI shall accompany consignments of products imported into the community. It shall certify that the products meet Regulations 852 and 853/2004. *Currently such certificates are issued by CFIA for EU exports.*

Article 15 Item 2 (a)

There will be a joint communication from the competent authorities of a third country that the country has inspected the vessels used to harvest the fish products.

5 Item Article 1 4

When the competent authority of a member state requests the competent authority of a third country to carry out an inspection they shall agree on the conditions governing the inspection.

Member states are to receive reports on results of these inspections and on any non-compliance.

Areas to cover include organoleptic exams, freshness indicators, histamines, residues and contaminants, microbiological checks and parasites.

Certificates accompanying shipments will each have a unique identification number.

They will be issued before the consignment leaves control of the competent authority.

Annex IV: Traceability Regulations in Japan

In Japan, the traceability issue is approached two ways: Traceability Legislation and Food Labeling regulations.

In 1997 the Ministry of Health Labor and Welfare (MHLW) as the principle risk managers for food safety revised the “Food Sanitation Law”, and among other changes introduced new provisions for traceability (product tracing requirements) for various types of food products. The provisions of the Food Sanitation Law, instructs every entity in the food chain from production to final sale to prepare a system that can track the origin of the product it handles. An entity is requested to make and reserve the record of its procurement and other information on its raw materials and to file its sales slips so the firm can quickly and completely fulfill a recall procedure for a product. Importers are strongly requested to have records for each lot imported including the name of the product, name and address of the processor, lot identification and date of import and the number of import notice given to the government, as well as the ingredients and food additives used in its manufacture and any inspection records related to it.

More recently a Traceability Law has been implemented in Japan but this law is applied only to beef produced in Japan from Japanese domestically raised cattle imported into Japan and raised in Japan. This Law is entitled “*Law for Special Measures Concerning the Management and Relay of Information of Individual Identification of Cattle*”. Locally it is referred to as “*Beef Traceability Law*”. Under this law almost all information from the cattle on the farm to beef on the table is recorded and consumers will have access to this information through computerized systems. This law does not apply to either domestic or imported seafood and it is not expected to roll out into this area.

In food labeling the Ministry of Agriculture Forestry and Fisheries (MAFF) intends to revise two administrative rules pertaining to food labeling. The new regulation will update the current regulations outlined below. They will mandate a country of origin for material used to produce some perishable foods and processed foods.

The *Quality Labeling Standard for Perishable Foods* (implemented March 31, 2000) is one regulation while the other is the *Quality Labeling Standard for Processed Foods* (implemented March 31, 2000).

The Quality Labeling Standard for Perishable Foods requires that the Country of origin be shown when any seafood is sold as other than a processed food (in form of fish without processing into a secondary product). This regulation also requires that the perishable fish show whether it was *wild/tennen* or *farmed/yoshoku*, as well as *fresh/seisen*, or *frozen/reito* or *thawed/kaito*.

In the case of fish caught by a Japanese vessel, or farmed in Japan the name of the prefecture or the name of the fishing grounds or the landing port can all be the place or origin. Imported seafood such as salmon slices imported from BC has been sold since 2000 as “Product of Canada”.

In the revised *Quality Labeling Standard for Processed Foods* the country of origin will be required for materials used for the production of 20 items of processed foods. Eight of these are produce items, five are meat items, six are seafood items, and one item is for mixed products (vegetables and meat or other mixtures of foods).

The processed seafood items which will fall into the six categories which are:

- Simple dried seafoods, salted and dried seafoods, boiled and dried seafoods and kelps, dried seaweeds;
- Salted fish and salted seaweeds;
- Cooked seafoods and seaweeds;
- Blanched or steamed seafood and seaweeds;
- Seafood with its surface roasted; and
- Battered and breaded seafood.

In the case where processed seafood might have materials from more than one country the country of origin is to be designated for each material in the order of the higher percentage in weight of the material used. If more than two countries are involved all the remainder can be grouped under “other”.

The revisions to these regulations are currently under review with the WTO to ensure they are consistent with trade obligations. The changes were also subject to public consultations over the summer of 2004. Final implementation is expected fairly soon.

Annex V: Canadian Food Inspection Agency Quality Management Program - Fish Inspection Regulation

Chapter 3 Subject 4 Section 2

Processors are required to identify and process information in the form of a product description.

The compliance guideline for the product description is as follows. Each product or group of products should include:

- Descriptive product name
- Source of the raw material used in producing the product
- Important characteristics including:
 - ✓ All ingredients;
 - ✓ Product packaging;
 - ✓ Market destination;
 - ✓ End product use;
 - ✓ Product shelf life;
 - ✓ Labeling instructions for safe storage; and
 - ✓ Special distribution controls if any.

Chapter 3 Subject 4 Section 3

The Prerequisite Plan (lot accountability)

For the purposes of carrying out a product recall, processors are required to have a product identification and distribution system that allows for the rapid identification of the first shipping destination (one up traceability).

Lot Accountability and Notification Program

Processors must provide a written description of the system used to trace fish to their first shipping destination. For each shipment this must include:

- Name and address of the person to whom each shipment was sent;
- The type of fish;
- The quantity of fish;
- The method of transport including manifest and container numbers and other information that is sufficient to identify or trace the location of the fish;
- The date on which the fish was shipped; and
- The date on which the fish was processed.

Chapter 3 Subject 4 Section 4

Regulatory Action Points (RAP) Plan

The RAP plan must describe the controls to ensure that the labeling and coding of all fish products meet the requirements of the Fish Inspection Regulations.

Compliance Guidelines for Labeling and Codes

Marking of fish products must be accurate legible and not misleading.

Where a processor receives fish from suppliers the processor must establish control measures to ensure, protect and preserve the quality of that fish. An effective control is a Supplier Quality Assurance Agreement (SQA). An SQA can cover items such as transport, temperature controls, withdrawal from medicated feeds and other requirements.

Regulatory requirements other than the Fish Inspection Regulations (FIR) do not require specific controls but processors must ensure that all products are in compliance with all applicable regulations including Food and Drug, Consumer Packaging and Labeling, Weights and Measures and *foreign country legislation for exported products*.

Annex VI: Acronyms

AAFC	Agriculture and Agri Food Canada
Bioterrorism Act	Public Health and Security and Bioterrorism Preparedness and Response Act
CBP	Customs and Border Protection Service of the USA
CFIA	Canadian Food Inspection Agency
COOL	Country of Origin Labeling
ECCC	Electronic Commerce Council of Canada
Environmental NGO	Non Government Organization
EU	European Union
Farm Bill	USA Farm Security and Investment Act of 2002
FDA	Food and Drug Administration of USA
QMP	Quality Management Program of the CFIA
RFID	Radio Frequency Identification Devices
USA	United States of America