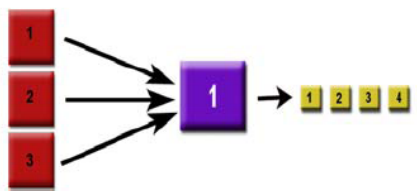


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| <p><b>Industry:</b><br/><i><b>Salmon Aquaculture (Atlantic Region)</b></i></p>   | <p><b>State of Readiness Assessment:</b><br/><br/><b>Total Score =</b><br/><b>A+</b></p>   |
| <p><b>Industry Overview:</b></p> <ul style="list-style-type: none"> <li>• Fewer than ten companies are responsible for the majority of farmed salmon production in Atlantic Canada. Farmed salmon production in the Atlantic Region represents about 1/3 of Canadian farmed salmon production, with approximately 90% of production occurring in the Grand Manan and Passamaquoddy regions of New Brunswick.</li> <li>• Most of these companies are Canadian owned and operated.</li> <li>• To achieve a competitive advantage, some companies have implemented product differentiation mechanisms e.g. 3<sup>rd</sup> party audited quality management programs such as Safe Quality Food certification and Seafood Trust Eco-Label certification.</li> <li>• Production is primarily Atlantic salmon with some companies also farming trout.</li> <li>• Most of the Atlantic Region salmon aquaculture businesses exhibit a high level of vertical integration; their involvement in many stages of the aquaculture supply chain allows them compete internationally and to implement effective traceability systems covering the upstream chain – from breeder to processor.</li> <li>• Companies have developed internal environmental policies to ensure compliance to regulations and maintain consumer confidence in their practices.</li> <li>• Depending upon the specific stage in the supply chain, the identification of products within the salmon aquaculture supply chain is based upon batch numbers, tray numbers, tank numbers, pen numbers and lot numbers. These designations are applied in a manner that is readily equated to the EAN trade unit/logistic unit system.</li> <li>• Industry associations – Aquaculture Association of Nova Scotia (AANS); New Brunswick Salmon Growers Association (NBSGA); Newfoundland Aquaculture Industry Association (NAIA); PEI Aquaculture Alliance (PEIAA) &amp; Canadian Aquaculture Industry Alliance (CAIA).</li> </ul> |  |
| <p><b>Supply Chain Pathways</b></p> <p>Breeder&gt; Truck&gt; Hatchery&gt; Truck&gt; Farm&gt; Boat&gt; Processor</p>  | <p><b>Unit Transformations</b></p> <p>Units may undergo multiple pooling and subdivisions between breeder and processor</p>  |
| <p><b>Market(s):</b></p> <ul style="list-style-type: none"> <li>• Primary market is USA followed by Canada.</li> <li>• The majority of product is sold in fresh, dressed, whole form - although fillets, portions and value added products are also produced.</li> <li>• COOL and US Bioterrorism Act are the main traceability regulations of concern for product exported to the USA.</li> </ul>   |  |

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| <b>Product and Business Data Availability:</b>  | <b>Score = 1</b> |
| <p>The Atlantic region salmon aquaculture industry records its traceability data elements in computer-based data recording systems such as excel spreadsheets, <i>Fishtalk</i> and customized data systems developed in house. Paper-based records are also maintained.</p> <p><b>What product or business data is missing?</b><br/>None. Salmon aquaculture companies collect a comprehensive set of product identity, business unit identity, product description, production history and transportation-related information.</p> <p><b>Is the data electronically accessible to the supply chain?</b><br/>Yes. Most companies maintain computer information systems which contain traceability information. The implementation of a single traceability system by all units of a vertically integrated business provides managers with easy access to unit-specific information.</p> <p><b>Is the data verifiable?</b><br/>One company is certified by the Safe Quality Food (SQF) Institute. Through this program, a third party auditor will verify the supplier's food safety and quality management system complies with international and domestic (US) food safety regulations. This enables suppliers to assure their customers that food has been produced, processed, prepared and handled according to the highest possible standards, at all levels of the supply chain. Another company's products are certified to the Seafood Trust Eco-Label through audits by a third party auditor, Global Trust Certification Ltd who is accredited by ISO 65 / EN45011.</p> |                  |
| <b>Product Identifiers:</b><br>Unique trade and/or logistic unit identifiers are used.  | <b>Score = 1</b> |
| <b>Data Transfer and Information Mapping:</b><br>Vertical integration and computer-based traceability systems facilitate the effective transfer of information.   | <b>Score = 1</b> |
| <b>Industry Leadership</b><br>Multiple provincially based organizations represent industry. NBGSA represents approximately 90% of salmon production in the Atlantic region. The CAIA does represent the aquaculture industry across Canada as a whole.  | <b>Score = 1</b> |
| <b>Processor Level Constraints</b><br>There is a strong link between the farm and processor levels due to vertical integration and production tied to market demand.  | <b>Score = 1</b> |
| <p><b>Opportunities:</b></p> <ul style="list-style-type: none"> <li>• Exchange and maintenance of traceability information with other supply chain partners using a globally recognized standard such as the EAN/UCC system.</li> </ul>   |                  |