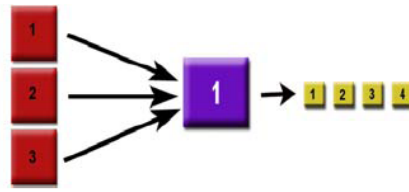


<p>Industry: <i>Shellfish Aquaculture (Pacific Region)</i></p>	<p>State of Readiness Assessment: Total Score = A-</p>
<p>Industry Overview:</p> <ul style="list-style-type: none"> • The Pacific shellfish aquaculture industry is made up primarily of independent growers. In 2008 there were 322 companies involved in shellfish aquaculture in BC at 506 different sites. Vertical integration within the industry is limited. • Production is primarily oysters (74% of production by weight in 2008) and clams (18%). Smaller quantities of mussels and scallops are commercially farmed. Species being considered - or under early development – for culture in BC include: geoducks, abalone, sea cucumber, sea urchins and cockles. • Most products are sold on the commodity market. There is a limited amount of and value adding. Branding is a common practice for shellfish from different companies. BC oysters have recently been labeled as “Pacific Kiss” as part of a provincial marketing program. • Although most producers only receive seed from a small number of suppliers, pooling of product may occur at the hatchery, nursery and farm as a result of grading/sorting activities. The amount of product pooling associated with grading/sorting makes the mapping of identity relationships extremely difficult. Wild recruited oysters and clams may also be mixed with hatchery stock. • Hatchery and nursery seed stocks are subject to disease free certifications and federal-provincial Introductions and Transfer Committee. • The farm-to-processor link has a level of traceability associated with compliance with CSSP, QMP and Vp regulations. • Industry association – BC Shellfish Growers Association (BCSGA); Canadian Aquaculture Industry Alliance (CAIA). 	
<p>Supply Chain Pathways</p> <p>Hatchery> Truck> Nursery> Truck> Farm> Truck> Processor Hatchery> Truck > Nursery> Boat> Farm> Truck> Processor</p>	<p>Unit Transformations</p> <p>Units may undergo multiple pooling and subdivisions between hatchery and processor</p> 
<p>Market(s):</p> <ul style="list-style-type: none"> • Market is primarily for fresh domestic sale and fresh exports to the USA, smaller quantities of frozen half shell oysters are exported to Asia. Geoducks primarily exported to the Asian Market. • CSSP/NSSP, COOL and US Bioterrorism Act are the main traceability regulations of concern. 	

CSSP=Canadian Shellfish Sanitation Program

QMP=Quality Management Program

Vp=*Vibrio parahaemolyticus*

<p>Product and Business Data Availability: Traceability requirements are currently available through the following systems.</p> <table border="1"> <tr> <td> <p>Hatchery Invoices Shipping documents Sales Records</p> </td> <td> <p>Nursery Invoices Shipping documents Sales Records</p> </td> <td> <p>Transporter Bill of Lading</p> </td> <td> <p>Farm Invoices Shipping documents Sales Records Vp Program Bill of Lading CSSP tag</p> </td> </tr> </table> <p>What product or business data is missing? Place of dispatch, CSSP area designation, disease records/history.</p> <p>Is the data electronically accessible to the supply chain? Record keeping is electronic but is primarily limited to the use of, paper, excel or MSAccess. Paper records are also maintained by supply chain partners. The use of custom traceability software is cost prohibitive. The accessibility of information upstream from the farm-processor link may be much more difficult to efficiently access.</p> <p>Is the data verifiable? Growing water classification and PSP status are verifiable through CFIA. There is no 3rd party verification of other data elements.</p>		<p>Hatchery Invoices Shipping documents Sales Records</p>	<p>Nursery Invoices Shipping documents Sales Records</p>	<p>Transporter Bill of Lading</p>	<p>Farm Invoices Shipping documents Sales Records Vp Program Bill of Lading CSSP tag</p>	<p>Score = 1</p>
<p>Hatchery Invoices Shipping documents Sales Records</p>	<p>Nursery Invoices Shipping documents Sales Records</p>	<p>Transporter Bill of Lading</p>	<p>Farm Invoices Shipping documents Sales Records Vp Program Bill of Lading CSSP tag</p>			
<p>Product Identifiers: Batch and lot numbers are used to track product to the farm site. Specific product units are numbered with an identifier for some operations.</p>		<p>Score = 1.5</p>				
<p>Data Transfer and Information Mapping: Current data systems are paper based with data transferred to the buyer through harvest tags as required by CSSP, QMP and Vp Programs. The level of data transfer that exists upstream from the processing plant is limited to paper records (invoices, bills of lading etc.) passed from one business to the next.</p>		<p>Score = 1.5</p>				
<p>Industry Leadership: One organization (BCSGA) represents the majority of growers in BC, however other regional aquaculture associations also exist.</p>		<p>Score = 1.5</p>				
<p>Processor Level Constraints None.</p>		<p>Score = 1</p>				
<p>Factors impeding ability to meet traceability:</p> <ul style="list-style-type: none"> • Electronic information systems in which traceability information could be stored are not common among shellfish growers. • Hatchery to farm record keeping practices are poor. 	<p>Factors aiding ability to meet traceability:</p> <ul style="list-style-type: none"> • Most required traceability information is collected for CSSP, Vp and QMP programs • CAIA recognizes the necessity to achieve a ISO level of traceability to ensure market access. Traceability is one of the pillars of its Brand Canada marketing strategy. 					
<p>Opportunities: Goal 1 - Traceability to a container (sack, bag) level.</p> <ul style="list-style-type: none"> • Identify batches and label products with trade and logistic unit identifiers • The upstream supply chain may not currently be in compliance with the record keeping and labeling requirements of the US COOL. Given the importance of the US market, an initiative should be undertaken to ensure compliance through improved traceability and labeling. • To comply with the requirements of EC regulation 2003/804, the Pacific region shellfish industry is required to implement a surveillance and recording system for documenting/verifying the incidence of mortality and disease on farms. • Given the significant level of product sorting and pooling, protocols for mapping the relationships between input units and pooled units should be developed. • Traceability would be beneficial as a production/marketing tool. 						