

# New Brunswick Finfish Aquaculture Development Strategy | 2010 – 2014



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# Preface

Aquaculture is an important industry in New Brunswick and has become the cornerstone of the economy in a number of communities. Fisheries and Oceans Canada (DFO) and the New Brunswick Department of Agriculture and Aquaculture (DAA) are the lead federal and provincial agencies for aquaculture development. The responsibilities of the two levels of government are identified in the 1989 Canada-New Brunswick Memorandum of Understanding on Aquaculture Development.

The finfish sector, while predominantly in the southwest region, has a presence in all regions of the province. The New Brunswick Salmon Growers Association represents the industry position on salmon aquaculture issues, and the New Brunswick Trout Farmers Association brings the views of the freshwater trout industry to the table. While not represented by a specific association, growers of alternative species are recognized as important contributors to the sector. These development partners are committed to working together to enhance the competitive position and overall sustainability of the finfish aquaculture industry in New Brunswick.

This five-year strategy focuses on the development needs of the finfish aquaculture industry in New Brunswick, addressing regulatory issues only as they pertain to development and removal of barriers in that regard. The strategy will provide guidance as to priority areas for collaborative action and project funding and will be reviewed on an annual basis by the development partners to ensure that the overall elements remain strategic and relevant.

As noted, the provincial and federal governments are committed to collaborating with a view to the continued sustainable development of the aquaculture industry. While the New Brunswick Department of Agriculture and Aquaculture and Fisheries and Oceans Canada serve as the lead provincial and federal departments, a wide range of government departments and agencies are involved in the support, development, and regulation of the aquaculture industry. In New Brunswick, these include:

- Atlantic Canada Opportunities Agency (ACOA)
- Transport Canada (TC)
- Environment Canada (EC)
- Health Canada (HC)
- Agriculture and Agri-Food Canada (AAFC)
- Canadian Food Inspection Agency (CFIA)
- Farm Credit Corporation (FCC)
- New Brunswick Department of Fisheries (DOF)
- New Brunswick Department of Natural Resources (DNR)
- New Brunswick Department of the Environment (DENV)
- Regional Development Corporation (RDC)
- Business New Brunswick (BNB)
- Community Business Development Corporation (CBDC)
- Community Economic Development Agencies (CEDAs)
- Indian and Northern Affairs Canada (INAC)
- Canada/New Brunswick Joint Economic Development Initiative (JEDI)

# Introduction

From a relatively new industry in the 1980s, aquaculture in New Brunswick has grown significantly over the last 20 years. The most economically important sector is that producing farmed Atlantic salmon in the southwest region of the province.

In 2008, the New Brunswick salmon sector produced approximately 26,000 metric tonnes of salmon with an estimated farm gate value of more than \$192 million. That is a decrease as compared to previous years and is the result of a combination of low stocking levels in the 2006 year class owing to industry restructuring to better manage Infectious Salmon Anemia, in addition to losses due to the disease. With increasing competition and rationalization, significant consolidation of operations has occurred over the past seven years. That consolidation has also been reflected in the processing and marketing operations. The structural changes that have occurred in the salmon sector reflect the combined effects of various challenges faced by the industry primarily between 2002 and 2006. Several of those challenges have been addressed through joint industry/government initiatives, and the industry has since stabilized. It is anticipated that annual value will again increase, particularly with further advances in value-added products and the development of novel bio-products.

With respect to fresh water finfish aquaculture, trout are grown commercially in New Brunswick. The existing trout industry has been based on sales through u-fish operations, limited stocking for recreational fisheries, and limited retail production. Studies suggest production units greater than 140 tonnes are required for economic feasibility of facilities in New Brunswick producing freshwater fish for the retail market.

Diversification of the salmon industry into alternative species may reduce risks associated with disease and act as a hedge against changes in the market. Diversification of land-based culture facilities has potential for high-value niche production. To date, however, little diversification has occurred owing to economic hardships within the salmon sector and difficulty accessing financial assistance for pre-commercial development work.



The opportunities for growth of the finfish aquaculture industry in New Brunswick remain substantial given the potential for innovation with respect to culture techniques (i.e. Integrated Multi-trophic Aquaculture), technological advances (i.e. open ocean aquaculture), species and product diversification (i.e. sturgeon, Arctic char, cod, Atlantic halibut and value-added food and non-food products).

The finfish aquaculture industry is an important generator of employment and economic activity throughout New Brunswick. Benefits to the province include the creation of year-round employment in rural and coastal communities, an increased tax base, and the ability to retain young persons in their home communities or repatriate young persons who have left. The development potential of the finfish aquaculture industry and its prospective contribution towards the provincial goal of economic self-sufficiency have been recognized; however, the industry must develop in harmony with the environment and users of the marine resource, including the fisheries, tourism and the local community.

# Purpose

This five-year strategy seeks to address the development needs of the New Brunswick finfish aquaculture industry while recognizing the importance of environmental and socio-economic sustainability and coexistence with other aquatic resource user groups and interests. The following have been identified as strategic areas for investment (financial and/or human resources) in the New Brunswick marine and freshwater finfish aquaculture sectors:

- governance,
- competitiveness and business financing,
- business risk management,
- fish health and biosecurity,
- market access and consumer confidence,
- strategic infrastructure, and
- species diversification.

Strategic actions are identified under each area of investment and are intended for collaborative action by industry and the two levels of government. That is to be accomplished utilizing the committee structure established under the Canada-New Brunswick

Memorandum of Understanding on Aquaculture Development (MOU), which includes representatives from the aquaculture industry as well as federal and provincial agencies involved in the development and regulation of the aquaculture industry. The Marine Finfish Development Committee, the Freshwater Development Committee, the Marine Finfish Aquaculture Environmental Coordinating Committee, and the Aquaculture Health and Biosecurity Committee, reporting to the Management Committee responsible for the Canada-New Brunswick MOU, will be responsible for the annual review of this document and the suggestion of priority actions and projects as pertains to the scope of their respective mandates. Recommended priorities and a work plan to address priority areas are to be presented annually by each committee to the MOU Management Committee for consideration. Where possible, potential projects, proponents, and funding avenues are to be identified for priority areas. Government support for priority initiatives may come in the form of financial investment or programming, human resource effort, advocacy efforts, or other means as identified during work planning.



## 1. Governance

Sustainable development is a cornerstone of government policy. The challenge for economic developers, regulators, and the industry is to demonstrate the environmental, economic, and social sustainability of aquaculture to the public. In order to support the development of effective public policy and regulatory tools, greater knowledge is required in the areas of aquatic ecosystems, near and far field effects, potential impacts of therapeutic residues, site remediation and mitigation methods, etc. Environmental sustainability is equally a concern of the industry as aquaculture requires a healthy aquatic environment for optimal productivity.

To promote the orderly development of the aquaculture industry, identification of areas where farms can best be located to ensure respect of the environment and other aquatic resource user groups, including Aboriginal fisheries, and to meet regulatory requirements is seen as essential. While challenging, this sort of initiative can be important with a view to improving communications, social acceptance of the aquaculture industry, and coexistence with other aquatic resource users and coastal populations. A negative perception or image is seen as a significant challenge for the marine finfish aquaculture industry given the potential impacts on community acceptance. As such, efforts to improve public acceptance at the local level are regarded as very important when it comes to enabling growth in the industry and increasing the potential for successful lease applications. When considering lease applications, the Department of Agriculture and Aquaculture will engage First Nations communities and the Aboriginal peoples of New Brunswick and consult whenever there is real or constructive knowledge that a lease may result in infringement of a proven or asserted Aboriginal or treaty right.

The Traditional Fisheries/Aquaculture Working Group (TFAWG), which has been established in the Bay of Fundy region to support the coexistence and mutual sustainability of both the fisheries and salmon aquaculture industry, is an important tool in improving social acceptance. As part of its mandated activities, this group seeks to identify and guide research relating to interactions between aquaculture and the fisheries,

including the identification of any associated mitigation. It also provides a forum for consultation on use of the marine space in the Bay of Fundy, wharf usage, and operational issues that may arise. Continuing work with wild salmon conservation groups is likewise important.

Given limited geographical space in the Bay of Fundy, many New Brunswick-based salmon operations are looking to neighbouring jurisdictions, such as Nova Scotia and Newfoundland and Labrador, in order to expand their production volumes. This growth is beneficial to the economies of all provinces. In addition, growth in multiple provinces can contribute to corporate stability via the geographic spread of risk. Strategic cooperation amongst the provinces, and harmonization of processes and regulatory frameworks, where possible, will be important in facilitating the growth of companies in this manner.

A long-standing challenge for aquaculturists in general is the lack of aquaculture-specific legislation and/or regulations at the federal level. In particular, the application of certain sections of the *Fisheries Act* and associated regulations can result in unintended







operational impediments or increased regulatory burden. For marine finfish aquaculture, ambiguity surrounding the application of sections 35 and 36 of the Act can create uncertainty with respect to the actions required in order to maintain regulatory compliance. Differences between aquaculture and fisheries activities should be formally recognized and clearly delineated since these types of regulatory issues can act as disincentives to investment and future growth of the industry.

**Strategic Actions:**

- 1.1 *Support the continued use and refinement of Codes of Practice and/or Standard Operating Procedures relating to marine and freshwater environmental stewardship.*
- 1.2 *Proactively identify and prioritize research and development initiatives that address or minimize potential interactions among aquaculture, the environment, wildlife, and other users of the aquatic resource, including knowledge gaps as identified by the TFAWG.*
- 1.3 *Support initiatives aimed at promoting the social, economic, and biological benefits of finfish culture, with emphasis on communications, community relations, and minimizing conflict with other aquatic resource users.*
- 1.4 *Work towards harmonization of government processes in the Atlantic region as relates to facilitating aquaculture development and production.*

- 1.5 *Advocate for the specific needs and realities of the New Brunswick aquaculture industry to ensure suitability and stability with respect to regulation of the industry.*

## **2. Competitiveness and Business Financing**

**Financing:** Farming, including aquatic farming, is recognized as an inherently risky business. In addition, continued fluctuations in the value of the Canadian dollar puts pressure on many export-oriented Canadian industries and drives home the need for New Brunswick aquaculture operations to lower costs to remain competitive. Access to capital and operating lines of credit appears to be a universal challenge since several years without sales or revenue (variable according to the species cultured) are required for newly placed inventory to reach marketable size. In the absence of safety-net programming to assist with the management of business risk, many traditional lenders are reluctant to finance established aquaculture operations. For new operators or developing sectors where a history of financial viability has not yet been established, finding private financing represents an even more significant challenge. The credit crisis currently affecting the global economy will likely complicate this issue.

In this context, government programming has become increasingly important. ACOA provides financial assistance for research and development, establishment, expansion and modernization of aquaculture operations, as well as the development and marketing of value-added products. The provincial government, through the Fisheries and Aquaculture Development Board, has the ability to provide loans and loan guarantees on operating lines of credit. Recognizing that the aquaculture industry has gone through significant changes over the past decade, government financial assistance programming is being reviewed in the context of its ability to support current needs such as alternate species development, replacement of equipment at existing operations, and investment of new technology to improve biosecurity and fish health management.

Continued innovation will be central to improving industry competitiveness by improving system performance, reducing production costs, and addressing consumer concerns with respect to sustainability of industry practices. A number of government programs, such as DFO's Aquaculture Innovation and Market Access Program, DAA's Total Development Fund, and others through ACOA and the National Research Council's Industrial Research Assistance Program, are available to support industry initiatives that seek to improve overall competitiveness.

**Improvement through Technological Advances:** As there is limited potential for additional near shore sites on the New Brunswick side of the Bay of Fundy, growth in the marine finfish industry will require a move to more exposed or open ocean sites. Development of systems/technologies capable of withstanding higher energy environments will be capital-intensive and considered high-risk during initial testing. Support for technology development in this area will not only assist the local industry but also has the potential to generate export opportunities as demand for these technologies grows worldwide. Technological advances in land-based culture systems that minimize energy requirements (i.e. recirculation) and capital costs will benefit both freshwater species operations such as trout, Arctic char and sturgeon as well as the land-based segment of the existing salmon industry. Development of new means of reducing the environmental impact and/or improving environmental performance of the industry, so-called "green technology," will contribute to improving perceptions regarding sustainability of industry practices.

**Broodstock Improvement:** Growth performance, carcass composition and quality, rate of sexual maturation, and disease resistance of cultured stock have an important impact on the economics of any farm operation. Continued selection of top-performing families via a well-managed broodstock program will contribute to improving overall farm efficiencies and competitiveness of commercial operations.

**Improvement in Feed:** Canadian producers will continue to pay prices for feed on par with their competitors as feed inputs are sourced on the world market. Savings must come from improved feed formulation, better feeding regimes, and feed delivery technology. Genetically superior fish stocks can also lower feed costs by their improved feed conversion. Rising environmental concerns over the ecological impact of increased fishmeal consumption and a desire to find lower-cost inputs have stimulated a search for alternative plant-based protein. At the same time, breeding and production of oilseeds with a view to extraction of biofuels is likely to result in a glut of protein meal available for use in feed production, potentially reducing the cost of this component if suitable for aquaculture.

**Labour and Training:** The New Brunswick industry is experiencing shortages of skilled and semi-skilled workers, and this is recognized as a particular challenge for the salmon industry. Given the technical nature of work in specific areas of the industry, for example, hatcheries and fish health, higher levels of education are often sought in new employees. There is also a need to evaluate the education and skill base of existing employees to accommodate the increasing sophistication of expanding local companies.

#### **Strategic Actions:**

- 2.1 *Review financial programming available to the finfish aquaculture industry in conjunction with other appropriate parties involved in financing operations with a view to longer-term (4 to 5 years) solutions.*
- 2.2 *Continue to support pilot scale/pre-commercial trials to evaluate engineering designs, new technologies, and grow-out trials in order to increase the knowledge base for open ocean aquaculture/high-energy environments.*
- 2.3 *Support projects aimed at improving industry efficiency and/or reducing costs of production at marine, freshwater, or land-based finfish operations.*
- 2.4 *Support the development and adoption of "green" technologies to improve the environmental performance of operations.*



- 2.5 *Support technical missions, technology transfer, and workshops providing information for the industry on recent developments in land-based, “green” and open ocean systems/technologies.*
- 2.6 *Support continued advances in genetics through broodstock improvement.*
- 2.7 *Support industry initiatives that reduce feed costs and improve feed delivery or feed conversion.*
- 2.8 *Encourage the industry to evaluate and update its current training requirements.*
- 2.9 *Work with the New Brunswick Community College and other relevant training/education institutions to evaluate current programs and potential adaptations to the delivery and format of modules in order to meet the current needs of industry, increase accessibility, and improve enrollment.*
- 2.10 *Support workshops that provide opportunities for hands-on technology transfer and relevant training courses through appropriate New Brunswick training facilities, including community colleges and universities and other service providers.*

### 3. Business Risk Management

Aquaculture is still widely perceived as a high-risk sector. As such, investors lack confidence in the industry, and financing is difficult to attract. Developing a more attractive investment climate for all scales of production is imperative, and thus both industry and governments must define measures to quantify and reduce the risks inherent in aquaculture.

For aquatic farmers, the current lack of available coverage for critical risks such as sudden mortalities, severe weather events, invasive species, and disease is a critical weakness in their ability to manage business risk and protect their investments. Government can assist by supporting industry-led initiatives, such as best management practices (BMPs), standard operating procedures (SOPs), and improved biosecurity at both the farm and other industry facilities. These initiatives can reduce risk of loss and minimize the impact when such an event does occur. This is important not only to the operators themselves but also in order to reassure the private-sector financial services industry (FSI) that operators are actively managing their operational risks, thereby reducing the risk to FSI involvement/ investments in those operations.

There are some commonalities between what would be beneficial from a risk-reduction perspective and what may be required in the future for market certification purposes. In that regard, the development and implementation of auditable risk-control protocols could be useful as a background for certification. By demonstrating compliance with BMPs and SOPs, investor and public confidence should increase. In addition to reducing on-farm risk, practical and profound supplemental benefits would accrue in the areas of food safety, environmental sustainability, and public confidence through a common performance measurement system put in place by a given company and multi-purpose third party audit. This would serve to enhance industry productivity, competitiveness, profitability and social licence. Nevertheless, applying such risk management strategies across a broad sector of small- and medium-size ventures remains a challenge.



### **Strategic Actions:**

- 3.1 *Encourage the identification and development of appropriate business risk-reduction programming or tools for the finfish aquaculture industry.*
- 3.2 *Support measures that would be expected to reduce industry exposure to critical business risks, increase confidence, and support the insurability of the industry.*
- 3.3 *Support industry in the development and implementation of Codes of Practice and/or certification programs relating to fish health management, environmental performance, biosecurity, containment, worker safety, and other risk-reduction measures.*
- 3.4 *Support industry initiatives that investigate and seek coverage for critical risks.*

## **4. Fish Health and Biosecurity**

Diseases and parasites that affect the aquaculture industry are naturally present in marine and freshwater environments across the country. Fish health management in New Brunswick, aimed primarily at managing Infectious Salmon Anemia (ISA), has cost both government and industry in excess of \$100 million since 1999. In the case of ISA, government provided disaster relief and technical and financial assistance for industry; however, industry itself has incurred large financial losses. Improved industry management practices, the new three-year bay management

structure, and the provincial ISA program with its biosecurity audit function have virtually eliminated losses due to ISA and have decreased the impact of other production diseases; however, continued research and development of new diagnostics and management techniques and access to effective therapeutants are considered critical to the sustainability of both the marine and freshwater finfish sectors. This is important for the prevention and management of future diseases that are either currently not affecting New Brunswick waters or are completely unknown.

Unlike the agriculture sector, the aquaculture industry does not have a variety of products approved for use in treating parasites or disease. It is known that dependence on one product to treat bacterial, viral, or parasitic ailments will eventually lead to resistance to the product. Development of resistance is a common problem in both animal and human health and is not limited to the aquaculture industry. Therefore, it is essential for industry to have access to a broad range of tools to optimize fish health management in the prevention of disease and to control parasites. This is a fundamental principle in an effective integrated pest management approach and helps to ensure that all treatments deliver optimal results.

It is critical that government and industry take proactive measures to prevent the introduction of disease and invasive species in New Brunswick waters. Education of marine resource users regarding diseases of concern and potential impacts of invasive species is a proactive approach to minimizing the risk of introduction. In

addition, improved industry management practices and continued surveillance are imperative to minimize spread and impact, if and when an introduction occurs.

The National Aquatic Animal Health Program (NAAHP) being implemented by the CFIA and DFO will deal with aquatic animal diseases that have been designated reportable or notifiable in Canada because of their potential impact on trade. The program consists of measures needed to prevent, control, and/or eradicate aquatic animal diseases of concern. However, effective programming and management options are also needed to deal with diseases that are not covered under the NAAHP but are of concern to industry or the public.

**Strategic Actions:**

- 4.1 *Support research through fish health projects, with emphasis on those related to ISA, bacterial kidney disease, sea lice, and diseases affecting alternate species, in addition to therapeutic and vaccine development and/or testing by industry.*
- 4.2 *Advocate for the review and approval, in a timely manner, of new therapeutants for use in aquaculture.*
- 4.3 *Support initiatives that further the development of a bio-secure environment to prevent and/or manage disease and invasive species issues, including the development of an Integrated Pest Management Program for the control of sea lice.*
- 4.4 *Ensure that appropriate regulatory tools are in place with respect to fish health management and control of disease.*
- 4.5 *Governments will work together in developing the National Aquatic Animal Health Program to avoid duplication and ensure that provincial and regional needs are met.*

## 5. Market Access and Consumer Confidence

The main markets for New Brunswick finfish producers are eastern Canada, as far west as Ontario, and the eastern United States (U.S.), as far west as Chicago and south to the Carolinas. Approximately 40% of New Brunswick production is used for value-added product while the rest is sold as dressed head-on (DHON). At present, the New Brunswick salmon industry is enjoying high prices and solid demand for its product in the U.S. and Canadian markets. That is being influenced by decreased volumes of product from Chile, given its ongoing crisis with ISA, and tariffs on value-added product coming from Norway into the U.S. Both of these factors may change in the future, so efforts aimed at promoting New Brunswick salmon as having superior quality and freshness given the proximity to market remain important for maintaining or growing market share.

Demands by consumers, retailers, and foreign governments for additional assurance of food safety and product traceability throughout the value chain are increasing. While such demands do not currently pose a barrier to product sales for the New Brunswick finfish aquaculture industry, it is important to stay on top of market trends and potential implications. Certification of products with respect to sustainability of production methods is becoming an important market driver, particularly in the salmon industry. While there are numerous certification programs being promoted at the present time, it is expected that one or two will eventually become dominant. Recognizing the importance of this trend, many companies in the New Brunswick salmon sector are working towards or have achieved certification to specific standards.

Identifying cultured finfish products from New Brunswick-based companies via development of premium brands, niche or specialty products and programming for quality standards, environmentally sustainable production methods, and traceability will enable local producers to continue to command top price for their product and increase their access to new markets. At the same time, there is a need to address the lack of knowledge at the consumer and retailer (fish counter) level with respect to standards for quality and traceability as well as the meaning and value of third-party certification where applicable.

### **Strategic Actions:**

- 5.1 *Support the development and implementation of informational/promotional initiatives based on product safety, nutritional value, and environmentally sustainable production methods.*
- 5.2 *Support gathering of intelligence to further define new market opportunities.*
- 5.3 *Support the development and implementation of Codes of Practice, Standard Operating Procedures, and/or initiatives related to improving product quality, demonstrating sustainable production methods, and enhanced food safety and traceability.*
- 5.4 *Support the finfish industry in attaining certification for market advantage.*
- 5.5 *Support initiatives related to the development of value-added product in response to market demand.*

## **6. Strategic Infrastructure**

With expansion of the New Brunswick aquaculture industry, there is increased demand on existing infrastructure as well as the need for new infrastructure in more recently developed areas. It is recognized that current demand for aquaculture-specific wharf and landing infrastructure to service marine-based finfish operations exceeds existing capacity in the Bay of Fundy region of New Brunswick. For land-based finfish operations, siting in a remote location can mean a lack or inadequacy of basic infrastructure. In many cases, such limitations inhibit daily operations, increase cost of production, and/or create a significant barrier to new development. Examples of infrastructure required to support and grow the finfish sector in New Brunswick may include, but are not necessarily limited to, wharf and landing infrastructure, waste disposal, processing capacity, and specialized loading and unloading facilities for biosecurity.

### **Strategic Action:**

- 6.1 *Support strategic initiatives aimed at identifying, establishing, or improving/refurbishing infrastructure to support existing operations and enable expansion of the freshwater and marine finfish aquaculture sectors, with an emphasis on projects that are expected to have sector-wide benefits.*



## **7. Species Diversification**

Research into the economic potential of farming Atlantic halibut and cod is ongoing. Main constraints to the development of these species include: evaluation of viability based on commercial-scale grow-out trials, optimization of culture strategies, development or continuation of broodstock programs, assessment of nutritional requirements and species-specific feeding strategies, development of an appropriate fish health program, and training of staff. Limited demonstration of commercial viability is a barrier to investment at this time. As such, government support of pre-commercial development efforts is critical.

Research in the area of Integrated Multi-trophic Aquaculture (IMTA) as a means to diversify production, increase economic opportunity, and optimize environmental performance at existing salmon farms has shown great promise. In addition, IMTA has the potential to contribute to a positive, sustainable image and improved social licence. Commercialization of this approach to species diversification is likely to be somewhat expedited as IMTA makes use of existing marine sites and labour forces and requires relatively limited investment on the part of the operator.

Demand for Arctic char as a niche product is strong, and culture of this species holds potential for new development opportunities and diversification at salmon hatcheries. The province maintains an ongoing broodstock program for Arctic char at the Coastal

Zones Research Institute in Shippagan. Sturgeon culture, under development for the last twelve years, is also demonstrating great potential. Caviar prices will likely remain high as some wild stocks in Europe, the Middle East, and Asia continue to fall toward extinction. Marketing of farmed sturgeon products may be problematic if countries curtail trade as a conservation measure; traceability, and possibly certification, will be of particular importance in this regard.

The future commercial production of alternative finfish species will require extensive investment to perform pre-commercial pilot-scale projects to assess technical and financial feasibility and obtain consistent results. While a number of federal and provincial programs exist to assist funding of research and development, and financing of the commercialization of alternative species, different programs focus on different phases, and there remain significant challenges in addressing the gaps in funding for moving forward. In the absence of programming to cover the entire process of bringing projects from the research phase through development and on to commercialization, companies working on the development of alternative finfish species are financing development by taking on debt. That situation has limited the total amount of research and development under way at any given time, which in turn has slowed commercial development.

### **Strategic Actions:**

- 7.1 *Through existing programs, governments will continue to support viable diversification projects that:
  - a) result in significant net incremental economic activity,
  - b) are supported by a positive market outlook, and
  - c) are led by individual firms or consortia with the financial capacity to commercialize the research and development project where results are positive.*
- 7.2 *Pursue the development of appropriate, multi-year programming to address the gap in funding pre-commercial development work for alternative species.*
- 7.3 *Provide support to diversify species of culture at existing salmon hatcheries.*
- 7.4 *Support the gathering of market intelligence that would be used to define future development and growth opportunities.*
- 7.5 *Where sufficient companies and/or partners have indicated interest, support the development of species-specific development strategies.*

