



CREATING WEALTH FROM KNOWLEDGE

### **Vision**

*The Centre for Shellfish Research (CSR) will become an International Centre of Excellence in shellfish aquaculture research, innovation, training and technology transfer.*

### **Opportunity**

Aquaculture will dominate seafood production by 2030. As a result, shellfish aquaculture promises to be a significant economic opportunity for BC coastal communities. Multiple studies have documented this potential, as well as identified the likelihood that BC First Nations could occupy a leadership position in BC's shellfish aquaculture industry within the next decade. The market for BC shellfish products will continue to expand, particularly in the US and Asia/Pacific.

### **Filling the Research Gap**

By supporting and responding to the research and training needs of the growing shellfish aquaculture industry, the CSR is filling a critical research capacity gap that exists in BC.

### **Building Capacity: Research Infrastructure**

Based on the agriculture model of successful R&D infrastructure developments, the CSR has, over the last four years, begun to construct the research and development infrastructure necessary to support the needs of the shellfish aquaculture industry. In October 2004 a new CSR research building was officially opened at Malaspina University-College. In 2006, a field site will be constructed on a 7 acre waterfront parcel in Deep Bay (5 km south of the Denman Island ferry). Upon completion, the university based research facility, coupled with the field site adjacent to a major shellfish growing area, will provide infrastructure that is unparalleled, both in Canada and on the west coast of the US, and which will be ideal for research, training, innovation, and technology transfer. These facilities will form the core of an industrial cluster which includes the DFO Pacific Biological Station, U-Vic, and the Centre for Aquatic Health Sciences.

### **Building Capacity: Research Staffing/Programs**

To maintain and enhance public and First Nations confidence in modern shellfish culture practices, the CSR has attracted a Canada Research Chair in Sustainable Shellfish Aquaculture to develop and lead peer-reviewed scientific investigations. This important research program has already begun to influence local and national science-based public policy development.

The CSR has also hired a shellfish production scientist to address production related questions that will assist farmers to remain profitable, driving new investment and diversification. As communication is a priority at the CSR, a manager has been hired to ensure that knowledge created is placed into the hands of the people who need it. A focus on public education at the newly developed field site will enhance public support for shellfish aquaculture. The CSR currently has 5 program areas and 20 active projects underway, with a core staff of seven and growing.

## **Strategic Planning**

Through regular dialogue with industry stakeholder groups, the CSR is able to continually refine its R&D strategic plan. At the most recent R&D priority setting workshop (November 2005), stakeholders ranked *Environmental Issues* and *Animal Production* as the areas of highest priority requiring further research - confirming the CSR's strategic research plan.

## **Networks and Partnerships**

Through the CSR's growing profile and positive reputation, it has established a local, provincial, national and international research network. Not only is the CSR's research network growing, but it is also becoming an important point of contact for potential investors. Recently, the CSR has hosted meetings with Taylor Shellfish Ltd., the largest integrated shellfish company in the Pacific Northwest (> US \$40m in sales) and Landa Holdings of the Netherlands. Both companies see the potential and are seeking investment opportunities in the BC shellfish aquaculture industry. In addition, some of the major BC salmon farming companies are also becoming active in shellfish aquaculture. All of these signals indicate that the industry may yet realize its true potential; and the CSR will play a very important role in facilitating and supporting that potential. An established and effective R&D capacity is a competitive advantage and an important element of investment attraction.

## **Education and Training**

### FN Training Program

To date, over 35 First Nations are already involved, or planning to become involved, in shellfish aqua-businesses. As with the Maori in New Zealand,, BC First Nations will play an ever growing part of the development of the BC seafood industry. Recognizing this, both federal and provincial governments have already provided significant financial resources toward shellfish aquaculture development in various regions of the province.

The CSR identified a critical need to build Band capacity for shellfish aquaculture development, and has just completed the development of a comprehensive FN shellfish aquaculture training program, which includes 17 courses ranging from beach management to business management. To refine teaching delivery approaches, the CSR has already piloted the delivery of these courses to a number of Bands. Partnerships have also been arranged with Northwest Community College and North Island College for regional delivery.

### Students and Highly Qualified Personnel (HQP's)

To ensure the development of a skilled workforce that will support the growth, diversification and competitiveness of the BC shellfish aquaculture industry, a primary objective of the CSR is to facilitate the education of students interested in shellfish aquaculture.

Malaspina University-College has a successful history in aquaculture education and training. MU-C currently offers a 2-year Diploma and 4-year undergraduate B.Sc. in Fisheries and Aquaculture and via extension activities also has a successful history in working with the shellfish industry to deliver relevant aquaculture workshops, technology transfer seminars and training courses.

By situating the CSR adjacent to the Departments of Fisheries and Aquaculture and Biology, MU-C has created a unique opportunity to facilitate the early stage development

and streaming of bright and enthusiastic students toward careers and upper level studies in shellfish aquaculture. The CSR laboratory and field facilities provide an enriched and stimulating training environment for undergraduate students, graduate students and post-doctoral fellows. Interest and enthusiasm generated through this continuum has lead students to careers in the industry and into graduate school in shellfish aquaculture-related fields. To date, the CSR has supported over 30 undergraduate and 4 graduate students including one M.Sc. graduate.

#### Enhanced Technology Transfer

The creation of the CSR has greatly enhanced Malaspina's ability to meet the shellfish industry's technology transfer and training requirements. Through its strong relationship with industry, the CSR is well informed of current industry technology transfer and training needs. The planned Deep Bay Field Site will be the ideal centre for training and tech transfer activities.

#### **Summary**

In 2001, the CSR was just an idea – a concept on which to support shellfish aquaculture development. Four years later, the CSR has emerged as the focus for an integrated approach to shellfish aquaculture research, development and training. Partnerships and collaborations have been created that would not otherwise have happened; public and private investment has been significantly leveraged and R&D training and development has been accelerated – all providing better value for taxpayer funded research investments. During this 4-year period of intense activity, CSR shellfish development activities have crossed over many organizations, both social and natural resource related. Through extensive consultations, the CSR has gained a greater understanding of what is needed to move industry development forward, and a strategic plan has been developed to achieve these needs. Capturing the promise of shellfish aquaculture economic opportunities for coastal communities and First Nations will only be optimized through a pro-active coordinated effort among these various organizations. Building on the momentum already achieved, the CSR can play a central role in effective delivery of industry development initiatives.