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A Regional Approach to the Development of a First Nation-Based Shellfish Aquaculture Industry in Northern British Columbia: Opportunities and Challenges

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With over half the BC coastline located north of Vancouver Island, the potential for shellfish aquaculture in this largely remote area has not been realized. Creating an industry in such a large area where no shellfish aquaculture infrastructure exists presents significant challenges and a regional development approach is critical to success. During 2003, twelve First Nation communities working with two native organizations, Coastal First Nations Turning Point Initiative Society (TPI) and the Tsimshian Stewardship Committee (TSC) initiated a program of 22 pilot farms, regional business planning, and infrastructure development to test, explore options, and hopefully establish a successful industry. This program has been undertaken with local economic develop groups, Ecotrust Canada (conservation NGO), industry consultants and local First Nation communities. Results of pilot farms have largely been successful and a regional feasibility study completed in early 2004 laid out a business strategy that is guiding further phases of early industry development in this region. In the next phase of the project there is a focus on “pre-industry development and capacity building” that includes further community work, grow-out testing, training, establishing farm sites, regional and community business plans, market strategies and sourcing capital for development.

Introduction

With over half the British Columbia coastline located north of Vancouver Island, the potential for shellfish aquaculture in this largely remote area has not been realized. For more than 30 years most bivalve fisheries have been closed and aquaculture held back in this area due to a lack of sanitary and marine biotoxin monitoring in this region. Previously all but two small shellfish farms have been located on the south coast of British Columbia. The area of the project extends approximately 400 km north to south and covers 3 degrees of latitude.

The 12 coastal First Nations in this area are embarking on an ambitious shellfish aquaculture development program. Creating an industry in such a large area where no shellfish aquaculture infrastructure exists presents significant challenges and a regional development approach is seen as critical to success.

To that end the 12 Nations have come together to move the initiative forward jointly through two native organizations, The Coastal First Nations Turning Point

Initiative Society (TPI) and the Tsimshian Stewardship Committee (TSC). This is the first time that so many communities in the north and central coast and the Queen Charlotte Islands (Haida Gwaii) have cooperated in such a large-scale exploration of shellfish aquaculture all at once

A strategic development plan was established in 2002, and in 2003 the two groups initiated a program of pilot farms and regional business planning and infrastructure development to explore options and hopefully establish the foundations of a successful industry.

Funding

The Turning Point Initiative under the guidance of Larry Greba and the Tsimshian Stewardship Committee led by Bruce Watkinson of Kitkatla first raised funds from local communities, Indian and Northern Affairs Canada (INAC), the BC Economic Partnership Initiative and NRC IRAP (National Research Council Industrial Research Assistance Program) to explore this business opportunity. They and others are still engaged in fund-raising to assist with training and the transition to a full-fledged industry.

Project Team

A large project team was assembled that included staff of:

- First Nations Groups;
- Blue Revolution Consulting Group, which provided technical, business planning and marketing expertise;
- Ecotrust Canada, a west coast NGO that promotes environmental issues through development of conservation-based economies and has significant business planning expertise;
- BC Ministry of Agriculture Fisheries and Food provided assistance with pilot sites;
- The North Coast Water Quality and Biotxin Society, a non-profit group that is working to provide community-based Canadian Shellfish Sanitation Program services in northern BC; and
- The Prince Rupert Economic Development Corporation.

This latter group then worked with leaders, staff and community participants from each community.

First Stage Farms

The project began early in 2003 with the development of 22 “first stage” pilot farm sites spread across the region. The goal of these farms was to test and demonstrate species and methodologies to support site assessments, provide training opportunities, familiarize communities with shellfish culture, and provide information for later business planning.

In June of 2003 we used local First Nation vessels and community members to deliver equipment, anchor and build sites. Sites in the Tsimshian communities consisted of a raft and small surface long lines. Surface long lines were installed in the Turning Point communities. The sites were seeded in simultaneously in July. Seed was often delivered to the sites by floatplane. The sites have been maintained and monitored regularly ever since. Each site was seeded with:

- Single Pacific oysters in different types of trays,
- Cultch oysters,
- Gallo and blue mussels,

- Japanese weathervane scallops
- Edible kelps, on some sites.

Growth, temperature and oceanographic Information

Growth and survival data are being recorded. As well, continuous temperature data are being collected and oceanographic monitoring is being performed at each site.

Successful grow-out

Generally the communities have experienced excellent grow-out success, especially with oysters and scallops.

Business Planning

Concurrent with the development of seeding of pilot sites, the second phase of this initiative has involved the development of a regional business plan that examines the feasibility of the communities working together to overcome infrastructure, logistical, processing and marketing issues. This planning exercise recognized that the decision on the species grown and the form of products must be market driven and recognized the logistical realities of working in this region. To test various assumptions, the project team settled on a series of case studies and worked backwards to examine what a \$10 million dollar a year wholesale industry would look like.

Case study determinations

Using the information generated during this exercise, the team determined optimal size and siting requirements for farms, capital and labour requirements, processing, governance and corporate requirements.

Community and regional workshops

Before, during, and after this exercise, workshops were held in each community to explain the process, discuss regional and community issues, and get community feedback to assist the planning. We also held three regional workshops where leaders from each community got together as a group.

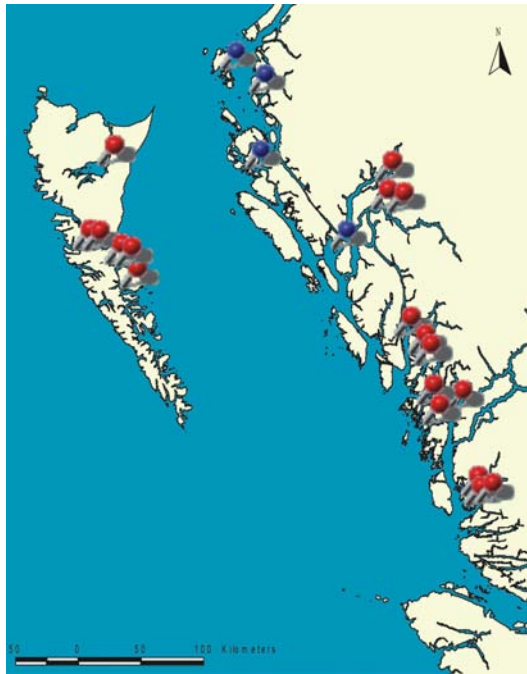
Regional business plan

The result of the initiative has been a regional business plan that sets out the analysis of feasibility and proposes a recommended business structure and implementation strategy for the communities. The critical recommendation was, of course, that to reduce business risk and provide the best chance of economic success that most, if not all, the communities needed to work together in such a manner that individual community goals were balanced against the regional approach.

Production overview

The recommended approach is to provide an umbrella development corporation that looks after shared requirements

Figure 1
Location of the 22 pilot farms.



such as general direction, seed, processing, and marketing but allows each individual community to independently operate its own farms.

Organizational requirements

An organizational diagram for this model includes a shellfish trust responsible for investment dollars, equal participation by communities in the board of directors of the development corporation and individually-owned and operated farms.

Potential new jobs

The business model suggests that this approach could conservatively generate approximately 280 full-time-equivalent jobs in the region.

Potential results

Other results would include more than \$25 million per year in wholesale value with strong local economic multipliers, with First Nation businesses that maintain important high conservation values. Working together, the communities believe that they are capable of achieving a world class sector, attracting new investment to the region, and contributing to maintaining infrastructure and export development in central and northern BC.

Pre-Industry challenges

So far, however, all that exists is a plan and a good start on the ground. The majority of the work now needs to be done in what we call “pre-industry challenges”. These involve firming up community buy-in and commitment, maintaining and expanding the pilot farms, and putting the corporate structure together. Each community must establish commercial grow-out sites and refine individual business plans. Markets need to be developed and confirmed ahead of product reaching the market and future employees must be trained. Biotxin and sanitary surveys need to be expanded through the region, and a specific processing infrastructure needs to be developed, as well as a suite of miscellaneous but critical minor projects.

Conclusion

In many ways this regional project is just beginning. All communities and project partners acknowledge that there are considerable challenges ahead and that the development of a northern shellfish culture industry will not be easy or fast.

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Figure 2
Oyster grown in a tray at one of the pilot farm sites.