New Opportunities In Aquaculture

Andrew Forsythe
National Institute of Water and Atmospheric Research Ltd (NIWA)

Contact: a.forsythe@niwa.co.nz
Salmon Production

• Western Canada - 90,000 T
• Norway and Chile – 800,000 T each
• New Zealand – 8,000 T

– Comparable coastlines appropriate for net-pen fish-farming
– Western Canadian salmon farming requires less than 2000 ha or marine lease space
Major trends in Salmon Farming

• Consolidation
• Pursuit of Economies of Scale
• Stringent product standards
Consolidation of Companies

• Increased control of the supply chain to reduce market volatility
• Better align production plans with market forecasts
• Manage the effects of currency exchange fluctuations
Pursuit of Economies of Scale

• Produce more with less at every point in the value chain

• Increase value at every point of production
  – Minimise opportunities for discounting
  – Improved inventory control and forecasting
  – Manage product characteristics to minimise cost while meeting product standards (e.g. flesh pigment or lipid level)
  – Reduce product down-grading
  – Premium branding
Stringent Product Standards

Regulatory requirements
– Environmental requirements (near-field and far-field effects)
– Food safety (regional, national regulations, international trade requirements)
– HACCP Plans
– Labour/employment standards
– Animal welfare standards
Stringent Product Standards

Respond to consumer expectations
Respond to NGO’s and special interest advocates lobbying regulatory authority and in the market-place
Stringent Product Standards

If managed well, Market opportunities

- Environmental certification
- Healthful and wholesome certification
- Traceability
Aligning Market Trends and Opportunities

New Zealand is poorly situated to compete in a global market with a commodity product: we need high value products.

High value is a function of strong demand and limited supply.
Aligning Market Trends and Opportunities

Find species that are amenable to farming, have strong market demand and are unique to New Zealand

Or

Impart features to a product that the consumer recognises as particularly desirable and distinctive
Aligning Market Trends and Opportunities

An example of imparting features to an established product that the consumer recognises as particularly desirable and distinctive is the “Safer Salmon”
Safer Salmon – Program Objectives

- Reduced contaminants: Hg, PCB’s, TEQ’s
- Fish meal and oil sources and amounts
- No escapes
- No GMO fish
- Minimal reliance on medications
- Minimised transfer of pathogens or parasites to the wild
- Reduced pollution
‘Safer’ Salmon continued

- Minimal benthic impacts
- No killing or harassing of wildlife
- Rigorous and audit ready record keeping
  - ISO 9000, 14000
  - Industry Best Practices
  - Internal SOP’s
  - NGO auditing
Grandville Island Fish Market, Vancouver Canada
Wild versus Farmed

$ Ca per pound
Results

On the initial market test, fish marketed under the “Safer Salmon” program received a 25% price premium and sold out within days.