Protecting Wild Salmon through Aquaculture Innovation

Report from the Tides Canada Salmon Aquaculture Innovation Fund
Presented by Catherine Emrick, April 28, 2014
Salmon Aquaculture Innovation Fund

Formed in 2009 with the support of the Gordon and Betty Moore Foundation and a committed group of Canadian donors

Overarching purpose is to protect wild salmon and the marine environment from negative impacts of open-net aquaculture

Focus is on assessing the technological, biological and economic feasibility of land based closed containment aquaculture (LBCCA)
From Freshwater Institute Grow-out Trials

We know Atlantic salmon will grow to full size in commercial densities in:

- less time compared to open-net pens
- with better feed conversion rates
- without antibiotics, pesticides or harsh chemicals
- excellent fillet yield, quality, and taste
Economic Feasibility Requires Scaling Up

‘Namgis First Nation’s “KUTERRA” Project stocked Atlantic salmon in a commercial scale module in March 2013; first commercial harvest occurred April 18, 2014
What have we learned to date from the KUTERRA Project?

Better understanding of site requirements

Capital cost for the facility - $9m vs. $6m (see Gary Robison’s presentation “Retrospective assessment of construction costs for the first 470 tonne/yr Atlantic salmon growout module at the “Namgis First Nation”)

Energy efficient design to significantly reduce energy requirements for process flow and pumping, heating and cooling
What have we learned to date from the ‘KUTERRA Project?

Regular, reliable supply of smolts into the system is key to using capacity, meeting market expectations, and economic feasibility.

Experienced operations manager, marketing and financial management expertise are essential.

There is a strong market demand and willingness to pay a premium for these fish.
As you know from dinner last night, the fish taste great!
What will we learn from operations at the KUTERRA Project over the next year?

Better understand fish performance, production planning and tank capacity utilization – all key to economic feasibility

Better understand key operating costs – feed, energy and labour

Opportunities to refine design for commercial scale – particularly capital and operating cost trade-offs

Evaluate equipment and techniques for handling and harvesting large fish
How will this information be communicated?

Detailed performance metrics for the 1st cohort, and a status report on cohorts 2 and 3, will be reported to Tides Canada in May 2014.

Analysis and review by multi-stakeholder Technical Advisory Committee.

KUTERRA performance metrics will be presented at Aquaculture Innovation Workshop #6, October 27 & 28, 2014.

Performance metrics will be updated and published following harvest of cohort 3.
Looking Forward - An Opportunity to Diversify Canada’s Aquaculture Industry

A great example of a fully integrated land based aquaculture business - Bell Aquaculture in Albany, Indiana:

- Produces Yellow Perch, Coho and Trout
- Vertically integrated – R&D, broodstock, hatchery, feedmill, growout, processing, marketing, organic fertilizer…
What is needed to move this new industry forward in Canada?

• Incentives to innovate to reduce capital costs and capture the value in the waste stream

• Market research to identify high value priority species

• Breeding programs to ensure disease free eggs and smolts for priority species are available to Canadian producers

• A regional branding program - the ‘VQA” equivalent for land raised, sustainable seafood
What is needed to move this new industry forward in Canada?

A “made for Canada” regulatory regime for aquaculture that:

• provides Canadians with confidence that our wild salmon and marine environment is being protected
• levels the playing for new technologies that improve environmental performance
• provides timely decisions and certainty for project proponents
What is needed to move this new industry forward in Canada?

- Educate investors and lenders about land based aquaculture as both a family farm and agribusiness opportunity

- Build investment pools to help diversify early stage investment opportunities and risk

- Invest in training to support commercial scale up

- Continue to build applied research capacity at Canadian institutions that collaborate globally
Fish is a healthy source of protein, with a low environmental footprint relative to other animal sources.

Global aquaculture demand is estimated to grow to 100,000,000 MT per year by 2030.

It is essential we find ways to produce fish sustainably.
Save the Date!

Aquaculture Innovation Workshop #6: Assessing the Technical, Biological and Economic Feasibility of Land Based Closed Containment Aquaculture

October 27 & 28, 2014
Vancouver, BC

Registration opening in early May, 2014

Visit: www.tidescanada.org/salmon/