

## Marine Farming Innovation Workshop

Havelock 30 November 2018

### Purpose of the Workshop



The purpose of this workshop was to to facilitate **innovation in marine farming** in two areas:

- maximising value
- minimising waste

This workshop was initiated by the Marlborough Smart + Connected Aquaculture – Value and Innovation working group with the support of Marlborough District Council

### Presentations to Stimulate Thinking

We had 8 presentations on a range of topics

<p><b>Pet Food Waste Stream</b> Simon Thomas</p>  <ul style="list-style-type: none"> <li>• Reframing 'waste stream' as 'remaining raw materials</li> <li>• Consistent growth in pet food market in NZ and overseas (the 'fur baby' phenomenon)</li> <li>• No longer a cost of doing business but a true lost opportunity.</li> <li>• Worth investing in appropriate plant to process.</li> <li>• Plenty of excellent pet food manufacturers in NZ looking for raw materials.</li> <li>• Where there is nutritional value there is financial value!!!!</li> </ul>	<p><b>Overview of funding</b> Steph Hopkins</p> <p><b>Fisheries New Zealand</b> Tini a Tangaroa</p> <ul style="list-style-type: none"> <li>• Aquaculture has regional economic growth potential</li> <li>• Aquaculture aligns well with many of our funds: <ul style="list-style-type: none"> <li>• <b>Provincial Growth Fund</b> <a href="http://www.growregions.govt.nz">www.growregions.govt.nz</a> - all forms are available. Provincial Development Unit (MBIE) administers fund Email <a href="mailto:PGF@mbie.govt.nz">PGF@mbie.govt.nz</a> Call 0508 743 473</li> <li>• <b>Sustainable Food &amp; Fibre Futures</b> Email <a href="mailto:funding@mpi.govt.nz">funding@mpi.govt.nz</a> Call 0800 00 83 33</li> <li>• <b>Waste Minimisation Fund</b> Email: <a href="mailto:wmf@mfe.govt.nz">wmf@mfe.govt.nz</a> Call 0800 499 700</li> <li>• <b>Callaghan Innovation</b> <a href="mailto:info@callaghaninnovation.govt.nz">info@callaghaninnovation.govt.nz</a> Call 0800 422 552</li> </ul> </li> </ul>	<p><b>Learnings from Blue Mussels</b> Nick McMillian</p>  <ul style="list-style-type: none"> <li>• Nick shared lessons learned from the process of scaling up innovative production from lab trials to industrial process</li> <li>• Consider the different specs of lab versus production equipment (e.g. centrifuge spin rates)</li> <li>• Crown Research Institutes with both staff and equipment provide great value for helping scale trials up</li> </ul>
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## Smart+Connected Aquaculture

Stacey Young



- Globally connected digital technologies central to council's vision of **Smart Marlborough**.
- Currently investigating a **rural broadband** solution for the Marlborough Sounds
- Successful pilot in **Wahopai Valley**
- Council planning '**Smart Services**' where interlinked sensors provide open environmental data streams accessible for business
- Currently applying for **Provincial Growth Fund**
- Stakeholder **collaboration** will follow when funding secured.

## Seaweed

Helen Mussely



- Large range of potential uses including:
  - **Foods**
  - **Health and Beauty**
  - **Biomaterials**
  - **Bioremediation**
- Recent research workshop highlighted following top opportunities:
  - **Functional foods**
  - **Harvesting/processing techniques**
  - **Strain selection**
  - **Seaweed materials**



## Shell, waste or opportunity

Sean Handley



- ~\$90/tonne to dispose
- Extensive sedimentation and chemical changes to seafloor due to **human impacts**
- Shell can be used as a restoration tool:
  - **Coastal defences**
  - **Living shorelines**
  - **Artificial rockpools**
  - **Land stabilisation**
- Funding proposal for **Mussel bed restoration project** in Pelorus Sound



## Oils and other innovations

Andrew Stanley



- Announced recent launch of **sea to me**™ range of marine nutritional supplements
- **Online only** sales strategy
- Effective marketing strategies for supplements better aimed on growing the market rather than fighting over it.



## Selling fresh

Maegen Blom



Value add opportunities and ideas come from talking and listening to our customers and then not being afraid to experiment with their ideas...



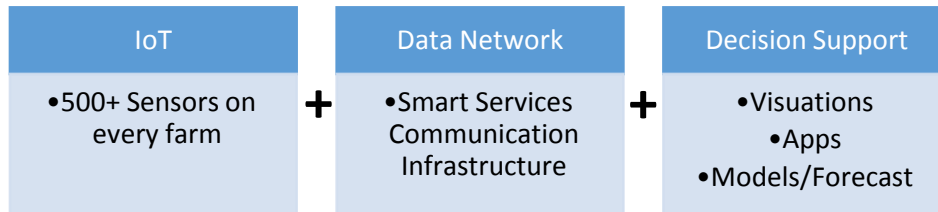
## Workshop Output

Brainstorming, prototyping and table discussions generated the following initiatives. Some groups were also able to come up with clear areas for support needed. These are ordered according to how many attendees were interested in further involvement with each initiative (number shown in brackets):

Seaweed Sensations (22)
<ul style="list-style-type: none"><li>• Developing seaweed products that are eaten as part of breakfast, lunch and dinner e.g seaweed cereal, seaweed sandwich slices and seaweed seasoning</li></ul>
Eco Hub (21)
<ul style="list-style-type: none"><li>• Create a centralised Marine Eco Hub for the processing of remaining raw material (RRM)<ul style="list-style-type: none"><li>○ Initial investment from interested parties</li><li>○ Multi-processing capabilities/multi-disciplinary facility</li><li>○ Combining to create 'critical mass'</li><li>○ Provide value-added materials in significant quantities</li></ul></li></ul>
<pre>graph TD;     A((Marine Eco Hub)) &lt;--&gt; B((Sanfords));     A &lt;--&gt; C((Sealords));     A &lt;--&gt; D((NIWA Cawthron Plant&amp;Food));     A &lt;--&gt; E((Talleys));     A &lt;--&gt; F((Local Central Govt.));     A &lt;--&gt; G((NZKS));     A &lt;--&gt; H((Iwi));     I((Others?)) --&gt; A;</pre>
Polyculture Fast Track (21)
<ul style="list-style-type: none"><li>• Developing a fast track process for negotiating compliance associated with polyculture development</li><li>• Involving local government as well as relevant central government agencies</li></ul>

## Smart Services for Aquaculture (18)

- Smart + (Digitally) Connected Industry
  - Moving from experienced based to knowledge based
  - DATA-INTEL on CROPS.STRUCTURES.ENVIRONMENT
  - On-farm Info on demand

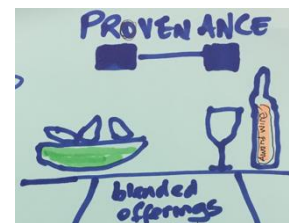


### Supporting a productive, high value and sustainable industry

- Support needed with/from:
  - Money
  - Expertise
  - Collective/collaboration
  - Tech startups
  - Government processes
  - Connectivity

## Top of the South Food Product Award (10)

- Generate prestige and profile around Top of the South sourced foods
  - Different categories e.g. 'Fresh is Best', 'Best food/beverage match' etc
  - Winning Top of the South dishes presented in restaurant menus
  - Collective success, everyone rises together
  - A place to show case new product lines
  - Link in with My Food Bag (My Marlborough Food Bag)
- Support needed/next steps:
  - Getting international judges (funding)
  - Buy in from chefs/restaurants
  - Building prestige of award
  - Access to marketing channels (e.g. My Food Bag)
  - Health concerns around seafood



## Hot Composting Shell Fertiliser (9)

- Incorporation of ground shell into existing bulk 'hot composting' green waste systems
  - Balances pH
  - Adds nutrients
  - Improves structure

### Grind the Floats (8)

- Initiative to improve efficiency of recycling retired mussel floats
  - Regular inputs of retired floats each week
  - Five-fold increase in transport efficiency with grinding
  - Possibility to also process plastic waste material from other primary sectors
  - Several unknowns to explore e.g. value of flake, cost of water blasting, sourcing a machine grinder, operating costs etc
- Support needed/next steps:
  - Feasibility study
  - Exploring an extended producer responsibility scheme
  - Explore funding from Waste Minimisation Fund and other sources

### Shells on Grapes (7)

- Ground mussel shell spread in vineyards to promote grape production
- Already in use by Yealands Wines ('Proof of Concept?')

### Shell Bioplastics (5)

- Use of ground shell as a component of bioplastic manufacture

## Next Steps

- The **Value and Innovation Working Group** from the Marlborough Smart&Connected Aquaculture group will meet to start the process of organising project groups to move some of these initiatives forward.
- The Sign Up sheets for the various different initiatives have been saved as a separate document for the working group to use to get in touch with all interested participants
- If you have a particular passion for one or more of these projects and want to initiate a project meeting please get in touch with Debbie ([debbie@marinefarming.co.nz](mailto:debbie@marinefarming.co.nz))