



*Sound environmental management is good business*

# CAWTHRON MARLBOROUGH ENVIRONMENT AWARDS 2017



## JUDGES' REPORT MARINE SANFORD, HAVELOCK

### INTERVIEWED

Zane Charman, Darren Brown, James Higgins, Grant Boyd

### DATE

20 December 2016

### JUDGES

Paul Gillespie, Jim Jessep, Bev Doole

### INTRODUCTION

Sanford has 185 mussel farms in the Marlborough Sounds and the operation ranges from spat capture to growing greenshell mussels, harvesting, processing at Havelock and managing the waste streams.

Throughout all of these activities is a drive to look after the Sounds waterways, not only because it is the "right thing to do" but also because sustainable mussel production relies on a healthy marine environment.



Judges were impressed at the innovation within the company and the support for staff to explore and develop new equipment and ways of working to reduce their impact on the environment.

Customer demand for sustainable practices, Council compliance requirements and staff initiative are driving the changes. Farm Development manager Grant Boyd summed up their approach: "We live and work and play in the Sounds. We want to look after it."

## GENERAL INFORMATION

Sanford is the largest fishing and aquaculture company in New Zealand and has been farming greenshell mussels in the Marlborough Sounds since the 1980s.

Mussel spat is seeded on to long lines suspended from the large black floats that make up the farm. The growing mussels filter-feed on passing phytoplankton and nutrients.

Mussels are ready to harvest after about 12-18 months. Barge crews haul up the lines, strip off the clumps of mussels and bag them for processing at Sanford's Havelock factory.

Sanford was the first company to join Aquaculture New Zealand's A+ Sustainable Aquaculture accreditation programme, which provides an environmental checklist and monitoring for compliance, biodiversity protection, biosecurity, wildlife protection and effects on the seafloor.

The company is also accredited under the Marine Farming Association's Environmental Certification Programme which checks that codes of practice and good farming procedures are adhered to.

Staff are active participants in the MFA's annual Beach Clean-up to collect industry debris that washes up on shore. In the past five years they have collected nearly 20 tonnes of rubbish, about a third of which was from the industry (including polypropylene ties and rope which break down into plastic filaments and persist in the environment). The amount of industry-related debris has dropped significantly as vessel crews are trained to keep debris from washing into the sea.



Sanford has a fleet of 12 vessels to service their mussel farms around the Marlborough Sounds. Operating in the marine environment requires care in containing hydraulic oil, bilge water and avoiding diesel spills. Staff are trained in emergency response for fuel spills and are available to support the Harbour Master.

The company is installing bilge filters and trialling biodegradable hydraulic oil. Staff are also investigating an alternative to using lead in the spat-catching rope by replacing with sand. Sanford is working with its rope supplier to find a biodegradable alternative to the polypropylene ropes and ties. The research and implementation of these environmental initiatives is driven by crew and engineers, supported by Sanford's culture of continuous improvement.

Research into vessel engines led to a programme to replace the industry-standard Scania with new Hyundai engines that are more fuel efficient, have lower carbon emissions and are quieter to operate. Despite the increase to 500 horsepower, there has been an 8 percent saving in fuel

and 50 percent reduction in oil used. Sanford were the first to use the Hyundai engine in New Zealand and are receiving inquiries from other companies including Abel Tasman water taxis.

Mussel floats and ropes are cleaned for reuse or recycling. Sanford's hub in Havelock collects and recycles 4,500 floats a year and encourages other marine farmers to use their facilities. All Sanford floats are now reused or recycled, with none going to landfill.

Sanford has a triple bottom line approach to its business, with consideration given to financial, environmental and social factors. Its contribution to the community includes:

- Support for the Graeme Dingle Foundation's Kiwi Can programme teaching children respect, resilience, integrity and independence. Fundraising by staff in 2016 included \$32,500 from a sponsored kayak crossing of Cook Strait supported by a Sanford boat.
- Fourteen staff members are volunteer firefighters in Canvastown, Havelock and Picton.
- Staff took part in the Havelock estuary clean-up with Havelock School.
- Donated 300 mussel floats for Lochmara Lodge to build an artificial reef.
- Donating 30kg of blue mussels to John's Kitchen each week for the Wednesday community dinner.
- Sanford received the MDC Marlborough Award in 2016 in recognition of its contribution to the region's economy and community.

## PROBLEMS AND HOW THEY HAVE BEEN TACKLED

### 1. Pollution of the marine environment:

- Hydraulic oil is used on board for pumps, lifting gear and winches and poses a significant threat if a hose bursts and spills overboard. A successful two-year trial has resulted in a change from petroleum based to a vegetable-based biodegradable hydraulic oil, ENI Arnica S 46, from Italy. Despite costing twice as much as the previous oil this innovation is being rolled out across the Sanford fleet.
- Bilge water contains hydrocarbon pollutants which is discharged into the sea. Ships are fitted with big filter units and Havelock staff decided to search for a smaller equivalent. They found BilgeKleen, an American cartridge system that filters the water before discharge, removing 99.9% of hydrocarbons. Despite the high cost, the units are being fitted to Sanford vessels in the Sounds, Coromandel and Stewart Island given the environmental benefits.

### 2. Plastic waste in the marine environment:

- To avoid the use of polypropylene rope and lashings, Havelock staff are working in partnership with mussel rope supplier Donaghys to develop Eco Rope, a natural biodegradable product made from corn-starch derived polylactic acid. Initial results for strength, durability and composting on land of Eco-Rope are promising and the trial has been extended. If successful this could be a game-changer for the industry in reducing plastic debris in the marine environment.
- Crew have been mentored to improve on-board harvesting practices to avoid plastic ropes and lashings going into the sea. Mussel floats that have broken loose are picked up when spotted by crews or reported by the public.

- Sanford has reviewed its floats and anchor systems to ensure the farms stay in one place and do not break apart.

### 3. Recycling mussel floats and farm ropes:

- Sanford is the recycling hub for all mussel floats in Marlborough. 70 tonne of plastic floats are recycled each year. After cleaning, cutting and packing in Havelock, the material is trucked to V Plas in Auckland and remoulded into underground piping.



- Floats are also donated to community groups. No Sanford floats go to landfill.

- Mussel farm ropes are brought to shore, cleaned and reconditioned for reuse. eg for oyster and seaweed farms and to create routes for whitebait through wetlands.
- Bulk mussel bags and polypropylene rope are sent to China for recycling.

### 4. Blue mussel byproduct (removed from mussel growing lines):

- Blue mussels and seaweed off the mussel lines are sent to Yealands Estate for vineyard compost.
- Collaboration through the Marlborough Research Centre to provide blue mussels for K9 Natural pet food.
- Working with Arbour Restaurant to feature blue mussels and local wakame seaweed on their menu.
- Blue mussels donated to John's Kitchen where they are being used to feed people in need.

## SUMMARY

Sanford's 185 farms and factory comprise a large enterprise in the Marlborough Sounds. The judges were unable to audit across all processes but focused on those environmental initiatives that show leadership in the industry.

Being part of a large company provides Sanford's Havelock operation with the support and infrastructure to get to grips with sustainable business development. The Havelock staff initiatives are an excellent example of continuous improvement being approached as a team effort, rather than being told what to do by the executive.

The judges were impressed by the improvements and innovation across the board and willingness to research new methods and products. The Eco Rope, bilge filter and vegetable-based hydraulic oil are more expensive alternatives, but the value is in the benefit to the environment and to Sanford's reputation and sustainability performance.

In many cases Sanford is an early adopter taking the risks to refine new practices that can then be rolled out throughout the company and the industry. This influence on improving environmental performance also flows through to Sanford's suppliers and contract growers.

As a public company with shareholder responsibilities it is admirable to see the steps Sanford are taking and money they are spending to look after the marine environment they are operating in.

## **SUGGESTIONS**

- Feature the Havelock innovations in the Sustainability section of the Sanford website.
- Support industry research into the cumulative effects of mussel farming and impact on phytoplankton.
- Host an MFA Sustainability training day to share experience and information on Eco Rope, BilgeKleen, Arnica S46 hydraulic oil and the Hyundai engine.
- Continue working with your suppliers to encourage the manufacturing and marketing of products such as Eco Rope.
- Lobby Council to require waste holding tanks on boats and more pump-out stations – the priority is to keep the Sounds water as clean as possible for recreation, residents and marine farming.
- Continue to place high priority on minimising all contaminant discharges and associated environmental issues.