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MOU Signed to Develop \$20 million South African Venture

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ASX Release - CAQ

MOU Signed to Develop \$20+million South African Venture

- **CAQ have signed an MOU with a substantial partner to develop a 2,000 tonne per annum CellTM production facility in the Eastern Cape region of South Africa.**
- **Total project cost estimated in excess of AU\$20million.**
- **Project will be one of the world's largest fully integrated, recirculating land-based premium seafood production facilities.**
- **CAQ to be assigned as exclusive 'aquaculture partner' and assume full responsibility for design, construction and operation of the entire project resulting in significant revenue flow to CAQ.**
- **Final site selection to be secured in the coming weeks.**

21 April 2009: Cell Aquaculture Limited (ASX Code: CAQ) is pleased to advise the signing of a Memorandum of Understanding to establish a AU\$20+million, CellTM land-based seafood production facility in the Eastern Cape region of South Africa. This project will be one of the world's largest, fully integrated, recirculating land-based seafood production facilities, with a production capacity in excess of 2,000,000kg of premium fin-fish per annum.

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The agreement has been signed with a consortium of South African entrepreneurs, with very strong grounding in the food & beverage and seafood industries. The head of the consortium is a key player and major developer of a highly recognised global food brand and restaurant chain, with in excess of 1,000 outlets in 34 countries. The other members of the consortium have a strong blend of finance, legal and seafood marketing expertise.

The deal will be structured as a joint venture, with CAQ to acquire 40% equity in the new joint venture company. It is agreed that CAQ will be assigned as the exclusive 'aquaculture partner' to the venture and the new facility will be a licensed Cell™ proprietary design, incorporating CAQ's tried and proven proprietary seafood production technologies and operating procedures.

In the capacity of exclusive aquaculture partner, CAQ will assume full responsibility for the design, construction and operation of the entire AU\$20+million project, resulting in significant revenue flow to the company. Revenue flow to CAQ will be derived from project management of the facility, licensing of intellectual property, sale of CAQ proprietary equipment, as well as 40% of the ongoing profitability of the facility once in production. The South African partners will have an active role in the day-to-day management of the business and secure project financing.

Given the very strong grounding of the South African partners in the food industry, it has been agreed that CAQ and its consortium partners will jointly assume responsibility for the marketing, branding and distribution of seafood produce from the facility. It is planned that approximately 50% of the production will be sold domestically within South Africa and discussions are advanced with a major South African seafood restaurant chain. The remaining 50% of the production is planned for export, primarily into the European and Middle Eastern markets and will ensure no cannibalisation of CAQ's existing markets for its Malaysian produce now or in the future.

Significant due diligence has been conducted and discussions are well advanced with three government backed Industrial Development Zones (IDZ's) to establish the venture. The various IDZ's are competing to offer very attractive incentives to secure the project to their region. A number of suitable sites have now been shortlisted for the project and a team of CAQ representatives and engineers will be travelling to South Africa in the coming weeks to finalise and secure the site selection.

Given the significant foundation work completed to date and the strong willingness of the partners to advance the project, it is anticipated that a formal joint venture shareholders agreement will be signed within the coming months.

As CAQ makes preparations to progress this exciting South African opportunity, the company still remains fully committed to its current Malaysian operations and planned expansion projects in Malaysia. A separate operational and engineering team is now being recruited for the South African project and all current Malaysian resources will remain focussed and committed to the Malaysian operations.

The process of securing Malaysian expansion funding has been slowed recently due to the global economic crisis and also a number of major changes within the Malaysian State and Federal Governments. CAQ is actively progressing a number of Malaysian government

funding applications and hopes to secure positive outcomes shortly.

Enquiries:

Mr Peter Burns
Executive Director
Ph: +61 411 463 399
E-mail: pburns@cellaqua.com

www.cellaqua.com

Cell Aquaculture Ltd (Australia)

www.cellaqua.com

Headquartered in Western Australia, Cell Aquaculture Limited (Cell) is an international aquaculture company, publicly listed on the Australian Securities Exchange (ASX). Cell supplies a full range of environmentally sustainable, vertically integrated seafood production services encompassing everything from 'Hatch to Dispatch'.

Developed over ten years the Cell™ propriety system is a complete land based environmentally responsible aquaculture system developed for the production and supply of premium quality fin fish. Cell has established hatchery operations for Australian Barramundi at James Cook University, Queensland, and is due to construct a world class multi-species hatchery in Malaysia. Cell has also commenced production trials on a range of further 'high value' premium species.

Cell has developed large scale production facilities in Terengganu, Malaysia, with further expansion planning now underway. Cell is also now focussing on an opportunity to develop one of the world's largest land-based recirculating seafood production facilities in South Africa. Cell supplies and installs growing systems, manages the operations as well as sales and marketing of finished product.

<http://www.southernstar.ie/article.php?id=1254>



More trouble brewing on fish farming front

By Archon Saturday April 18th, 2009

COMMENTARCHON

MENTION the words 'fish farm' and foaming at the mouth will suddenly strike salmon fishermen, sea trout ticklers, environmentalists and the 'compleat' angler. Nothing provokes such revulsion and loathing from the exponents of the art of ideal leisure and contemplation than the alleged damage that commercial fish farms do to the environment.

And now, more trouble is brewing. The European Commission has launched a new strategy to revive the fish farming industry and the Commission's head honcho for Maritime Affairs and Fisheries, Joe Borg, intends to make it easier for entrepreneurs to open a fish farm. He says declining fish stocks in the world's oceans are raising concerns in Brussels, as is the fact that most of the seafood consumed within the EU is imported. Worse still, a great part of imported fish is not what is stated on the label.

He believes fish farms are the way forward. 'Aquaculture has a bright future in providing Europe's discerning consumers with high-quality, healthy fish products. However, today, its potential is far from being fully realised. It's time for it to get its full share and to give this strategically important sector an equal voice,' he said.

He argues that EU investment in the currently stagnating aquaculture industry would 'reduce pressure on fish' and enable Europe to compete against huge imports from Asia and South America.

BROKEN PROMISES

It's not that there's anything new about the EU promoting fish farming. It's actually old hat. Several years ago Brussels launched a similar strategy which, not surprisingly, was enthusiastically embraced by the Irish government.

Our lads were so inspired that they pumped twenty five million into the development of the industry, claiming the cash would counteract job losses in coastal areas threatened by reductions in the fishing fleet. Six thousand jobs were said to be in the pipeline but, of course, nothing of the sort materialised. Today the number of people employed in the industry remains more or less at 400.

The promised bonanza turned out to be a glugger, because while one arm of the EU set in motion a plan to revitalise the industry, another was imposing the Habitat Directives to protect threatened fish stocks in coastal areas. The result was that anyone who wanted to set up a fish farm had to prove the development would not have harm the local environment.

In recent months Joe Borg listened attentively to complaints from fish farmers that environmental restrictions were an obstacle they found difficult to overcome and that compliance with Habitat Directives gave a competitive advantage to non-European companies operating from countries that had scant regard for the environment.

So, under his new plan, entrepreneurs will find it easier to get access to space and water and they'll have an equal voice in the planning process. Interestingly, commercial salmon fishermen, anglers and tourism interests were not consulted.

Bord Iascaigh Mhara was stoutly on the producers' side and told Joe Borg that it supported rolling back the Habitats Directives so as to make the development of the fish farming industry more flexible and simple. They're not alone in that attitude. The Norwegian company, Nutreco, the largest producers of farmed salmon in Europe, also has made it clear to Borg that the industry was handicapped by too many environmental regulations and needed to be freed up.

Whether or not Joe's plan will lead to an upsurge in fish farming in Ireland is open to question. The industry suffers from a bad image problem. Reports of diseased caged fish, riddled with sea lice and infecting native wild salmon and sea-trout, do nothing to promote a feel-good factor in the consumer.

As well, the argument has been put forward that because farmed fish are concentrated in a confined space, they rub against each other and the sides of their cages, damaging their noses, fins and tails, thus becoming infected with various diseases. Indeed, after an unwitting explosion of sea lice in hitherto uncontaminated coastal waters, salmon farms have been accused of causing the worst ecological disaster of the past 150 years.

Critics point to the disastrous impact sea lice have on young salmon, and in particular sea trout, as they make their first way from freshwater to saltwater. Friends of the Irish Environment, in a three-year study part funded by the EU, declared that sea lice had never been adequately controlled on Irish fish farms and that lice levels in 2007 were the highest since inspections began.

It's also claimed that, because of parasite problems, strong anti-biotic drugs and chemicals are used to keep the fish alive and that these drugs enter the environment. Although producers say they have reduced the amount of anti-biotic

drugs, the transfer of lice to wild fish is an ever-present risk. As well, fish farms produce a significant amount of faeces, often contaminated with drugs, which can affect local waterways.

Tourist interests assert that Ireland's reputation as a paradise for salmon and trout angling has long disappeared and that the angling industry is in a state of collapse. It's disgraceful, they say, that a natural resource with a capacity to generate significant tourist revenue and provide jobs is being lost.

Last month, outraged anglers in Connemara, demanded an immediate end to the re-introduction of salmon farming at Bertraghboy Bay. The area was once regarded as the best sea-trout fishery in Ireland.

Locals allege that the economic benefit to the locality in tourism was immense until the arrival of salmon-farming in 1988. Sea trout rod catches dropped from 5,500 to 100, while salmon catches fell from 500 to 50.

QUESTION TIME

What's fascinating is the question of how the hook and bait men, tourist bosses and the humble lover of nature will cope with the fall-out from the successful campaign waged by the European fish farm industry to ease environmental standards.

Anglers and commercial salmon fishermen say they're not against fish farms, but argue they should be located where their effluents can be filtered. Ideally, they would like to have them offshore where lice dispersion would be less likely to infect wild stocks. They also want offending fish farms to be vigorously prosecuted.

Will Joe Borg take any of that on board? Probably not.

The Green Party's response to demands for a loosening of environmental controls will also be interesting. The issue may well bring the party to a breaking point.

On the other hand, it can be argued that fish farmers need not worry about the Greens, since the hairy mollies have made it clear on other occasions that they're always there for the turning. Except in the case of the light bulbs, of course!

http://www.bclocalnews.com/vancouver_island_north/comoxvalleyrecord/community/42988962.html

Impacts of salmon farming probed

Published: April 14, 2009 3:00 PM

The regular monthly meeting of the Comox Valley Naturalists Society will be held April 19 at 7 p.m. at the Florence Filberg Centre in Courtenay.

Ruby Berry will give a presentation on impacts of salmon farming on wild sockeye populations. This presentation will precede the regular business meeting. The general public is welcome.

Fraser River sockeye face many lethal challenges on their journey to the sea. Sea lice from fish farms shouldn't be one of them. The Coastal Alliance for Aquaculture Reform presents a video and slide show describing the devastating impact open net salmon farms may be having on these sockeye.

Recent studies have indicated that anywhere there are salmon farms, there is an abundance of sea lice, and as juvenile salmon pass by on their out-migration to sea, they contract the sea lice and are killed.

Besides chum and pink fry, juvenile sockeye and herring have also been found to be heavily infected with lice. According to the timing of collections in the northern part of Georgia Strait, the juvenile sockeye are likely of Fraser River origin.

Preliminary research has indicated that at least one-third of the out-migrating Fraser River salmon travel through northern Georgia Strait on the east coast of Vancouver Island on their way to the open ocean.

For more information on this issue, see www.georgiastrait.org or www.farmedanddangerous.com.

Comox Valley-based Ruby Berry is the Salmon Aquaculture Program co-ordinator for the Georgia Strait Alliance and a member of the Coastal Alliance for Aquaculture Reform. Berry has many years of experience in social change and community development work on a wide variety of fronts, including several decades of dealing with fisheries issues and the environment on the West Coast.

For more information on CVNS, visit www.comoxvalleynaturalist.bc.ca.

— Comox Valley Naturalists Society

<http://www.patagoniatimes.cl/index.php/20090413792/News/Environment/REPORT-SOUTHERN-CHILES-COASTAL-WATERS-TRASHED.html>



REPORT: SOUTHERN CHILE'S COASTAL WATERS "TRASHED"

Written by Patagonia Times Staff

Monday, 13 April 2009



Aquaculture industry very much present off the coast of Chile's Region X
Photo by Benjamin Witte

Floating Debris Traced To Region X's Aquaculture Industry

Chilean researchers recently confirmed what casual observers have known for years: that the coastal waters around Region X are littered with debris, much of it from the area's aquaculture industry.

After studying the area for four years, Iván Hinojosa and Martín Thiel of the Universidad Católica del Norte (UCN) found that Region X's coastal waters contain amounts of floating marine debris (FMD) normally associated with much more populous locales.

"The composition of FMD in our study area was very particular and similar to that reported for the East China Sea and Hiroshima bay (Japan)," reads the report, entitled "Floating marine debris in fjords, gulfs and channels of southern Chile."

More than 80 percent of that FMD is made up of Styrofoam, plastic bags and other plastic fragments, they

concluded. The researchers determined that much of the Styrofoam and plastic can be traced to offshore aquaculture operations. Shellfish farms use Styrofoam to buoy their nets. Many of the plastic bags Hinojosa and Thiel found, furthermore, were easily identified as feed sacks used on salmon farms.

"The most common item was Styrofoam, which is intensively used as a flotation device in local mussel farms. Other marine debris (food sacks) was directly related to salmon farms. Thus, the distribution and composition of FMD strongly suggests that sea-based aquaculture activities are responsible for a large proportion of the FMD in the study area," the UCN report went on to say.

Certainly a turnoff for tourists, the high concentrations of FMD are also a threat to area wildlife, according to Hinojosa and Thiel. The problem, furthermore, threatens to spread. The waters off Chilean Patagonia could soon see their FMD concentrations rise as the salmon industry continues to expand southward, the researchers concluded.

Hinojosa and Thiel carried out their research between 2002 and 2005, during which time they took seven cruises through the Internal Sea of Chiloé and Los Chonos Archipelago.

By Patagonia Times Staff (patagoniatimes@gmail.com)

Last Updated (Monday, 13 April 2009)

<http://www.abc.net.au/news/stories/2009/04/10/2540611.htm>

Aquaculture training to offer insight into industry

Posted Fri Apr 10, 2009 12:38pm AEST

- [Map: Port Lincoln 5606](#)

Young people looking for a career in aquaculture can get free training in Port Lincoln.

The Seafood Training Centre of Excellence is offering the training after getting a Commonwealth Regional Initiatives grant.

The centre's executive officer, Samara Miller, says it is a good chance for people straight out of school.

"I think what this training program does, it actually gives young people a broad-brush look at what a career might look like in the seafood industry at very little cost to them," she said.

"And it gives them a look at a whole range of different things within the course so they can make a choice, especially if they want to stay on Eyre Peninsula."

<http://www.worldvet.org/node/4943>



Aquaculture Biosecurity Conference 2009

Now Open for Registration

International Aquaculture Biosecurity Conference

Practical Approaches for the Prevention, Control and Eradication of Disease



The International Aquaculture Biosecurity Conference (IABC), scheduled for 17-19 August 2009 in Trondheim, Norway has opened its web page (www.iabconference.org/) for registration and abstract submission.

The IABC is an international forum on current and future aquatic biosecurity practices for prevention, control, and eradication of diseases. Aquaculture producers, veterinarians, and government officials will convene in Trondheim to share opinions about practical approaches to biosecurity, just prior to the start of AquaNor, one of world's largest aquaculture trade shows.

Dr. James Roth, IABC co-chair and Director of Center for Food Security and Public Health at Iowa State University emphasized that "Aquaculture production has seen rapid growth and become a significant part of global animal agriculture in the recent years, but disease-related problems are becoming a significant threat to international trade and seafood safety."

Dr. Roar Gudding, IABC co-chair and Director of the Norwegian National Veterinary Institute said "The greatest obstacle to sustainable aquaculture development is spread of aquatic animal diseases. The goal of the International Aquaculture Biosecurity Conference is to provide expert opinions and tools for implementing practical, economic, and effective biosecurity plans to control and potentially eliminate disease impacts on the industry."

"Internationally-recognized speakers will spend two days with the conference attendees delivering a series of presentations and participating in round table discussions on the economic impacts of diseases and biosecurity programs, the components of ideal biosecurity plans, and development of international and national strategies," said Dr. Chris Walster, Secretary of World Aquatic Veterinary Medical Association and private aquatic veterinary practitioner from U.K.

Dr. Dušan Palic of the Iowa State University College of Veterinary Medicine said, "With increased occurrences of aquatic animal disease outbreaks worldwide, the IABC provides an interface of producers, health professionals and governments addressing timely topics such as identifying and prioritizing hazardous diseases, determining critical control points, epidemiology, surveillance and monitoring, and most importantly, implementing and certifying biosecurity programs at all levels."

Dr. David Scarfe of the American Veterinary Medical Association, voiced the opinion of the entire IABC executive board in saying, "We believe the conference will help set a solid framework for the development and implementation of biosecurity plans at all levels of aquaculture. It is our intention to develop practical and effective tools to assist in the prevention, control and possible eradication of many priority diseases. A good start in this endeavor is to outline and discuss the potential for industry-government cost-sharing programs related to biosecurity."

"We expect to welcome participants from aquatic veterinary organizations, aquaculture producers and industry organizations, government agencies, standard setting bodies, academic institutions and aquaculture related industries," said Dr. Torkjel Bruheim of National Veterinary Institute in Trondheim.

“August is a great time to visit the west coast of Norway, and the Conference attendees will have numerous opportunities to engage in professional as well as leisure activities while in Trondheim. The IABC will organize a visit to nearby fish farms, and thousands of visitors involved in the business of aquaculture will be at the AquaNor, providing many opportunities for networking.”

The Conference is organized by the Norwegian National Veterinary Institute, the Center for Food Security and Public Health and the Institute for International Cooperation in Animal Biologics, College of Veterinary Medicine, Iowa State University, the American Veterinary Medical Association, the Norwegian Veterinary Association, the Atlantic Veterinary College, University of Prince Edward Island, and the World Aquatic Veterinary Medical Association.

Conference sponsors currently include the Norwegian Ministry of Fisheries and Coastal Affairs, the Norwegian National Veterinary Institute, the Research Council of Norway, the Norwegian Veterinary Association, AquaNor, the OIE, the American Veterinary Medical Association, the Center for Food Security and Public Health, Intervet Schering-Plough Animal Health, Novartis Animal Health, Europharma, Pharmaq, and the World Aquatic Veterinary Medical Association.

To register or to submit an abstract go to <http://www.iabconference.org/>

For more information, contact the IAB Conference Secretariat at iabcsec@iastate.edu

http://www.fishupdate.com/news/fullstory.php/aid/12338/Seafish_warns_of_new_aquatic_animal_health_regulations_.html

FISHupdate.com

Seafish warns of new aquatic animal health regulations

Published: 08 April, 2009



New aquatic animal health regulations came into force on 27 March in England, Wales and Scotland, which will affect all aquaculture production businesses (APB's) in the UK, warns Seafish. This includes all fin fish farms, traders in live aquatic animals, shellfish and crustacean farms, shellfish purification and dispatch centres, some processors and small scale producers for the local market.

Under the new Aquatic Animal Health Directive (EC Directive 2006/88/EC), all APBs must be authorised by the competent authority, the Fish Health Inspectorate (FHI). For England and Wales this is based at the Centre for Environment, Fisheries and Aquaculture Science (Cefas) and for Scotland at the Marine Laboratory, Aberdeen.

“We welcome controls that stop the transmission of disease. We have had controls in place since 1992 which have made a major contribution to the high health status of our valuable fish and shellfish resources. This new legislation is designed to provide more transparent regulation and control systems by consolidating existing aquatic animal health legislation into a single Regulation,” said Sarah Horsfall, Seafish Legislation team.

The new Regulation will provide a public register of authorised aquaculture production businesses, including suppliers of aquatic animals, and an official register of stocked fisheries and cropping waters.

APB businesses have until 1st August 2009 to register for the authorisation process. There is also the potential for authorisation to be removed in the event of significant non-compliance.

“There are a few elements of the new Regulation that APBs need to be aware of,” said Sarah. “For the first time specialist transporters of aquatic animals have been singled out. They need to be registered, and have disease control measures in place, such as disinfecting their vehicles and equipment prior to loading.

“There is also the requirement for production businesses to produce a biosecurity measures plan where appropriate and to keep a record of all movements of aquaculture animals and products into and out of the site or business in order to comply with authorisation requirements. Mortality records are also needed wherever they are reasonably practicable,” she said.

The Seafish Legislation team advises the industry on its current legal requirements and engages with government on any proposed changes to legislation affecting the seafood industry.

<http://www.fis.com/fis/worldnews/worldnews.asp?l=e&country=&monthyear=&day=&id=31975&ndb=1&df=0>



Salmon Table Secretary Felipe Sandoval on a tour of Chiloe with salmon industry workers and representatives. (Photo: Olach)

Stakeholders discuss Aquaculture Law's implications for labour



CHILE

Wednesday, April 08, 2009, 23:30 (GMT + 9)

Salmon Table Executive Secretary Felipe Sandoval met with farmed salmon sector workers and union leaders on Saturday in Chiloe to analyse production system change proposals, and their potential impact on industry jobs and labour conditions.

According to workers, the number of layoffs will increase considerably in the months to come and reach 20,000 layoffs in the regions of Los Lagos, Aysen and Magallanes.

Some 17,000 workers are currently registered as unemployed, National Confederation of Salmon Workers (CONTRASAL) data indicates.

The Chilean salmon farming industry faces a severe crisis as a result of the layoffs, prompted by the fall in post-viral infectious salmon anaemia (ISA) production.

Also evaluated at the Chiloe meeting was the new Fishing and Aquaculture Law, set to spur major transformations in salmon farming, among them the technological updating of harvests and the relocation of facilities.

Workers presented a number of modifications to the changes they believe will alter and reduce job posts and working conditions, making these uncertain, *El Repuertero* reports.

After the meeting, Sandoval travelled to the Quemchi municipality to visit Marine Harvest and [Mainstream](#) farming centre facilities, sites that had been completely abandoned as a result of the ISA viral outbreak.

"I became acquainted with the problems the workers are having with the ISA virus first-hand," Sandoval stated at the end of his tour.

Upon being consulted on the implementation of aquaculture 'neighbourhoods' in salmon farming, the Salmon Table executive secretary said: "It is a different approach to organising an industry that had always grown inorganically and in a disorderly manner."

"With the neighbourhoods, we are going to be much more organised and avoid some risks. In allowing for improved operations, the neighbourhood is going to improve the environmental and sanitary situation," he explained.

The new production conditions will also feature density limits; that is, smaller quantities will be produced and greater controls will be exacted, he stated.

On the other hand, CONATRASAL President Javier Ugarte said it was discussed that labour matters should be incorporated into the Law.

"The industry owes a tremendous debt to us so we want our work to be protected, and if some company commits irregularities with its workers we also want to be able to to rightfully sanction them through the law," Ugarte said.

In other news, the National Fisheries Service (SERNAPESCA) reported that the number of centres in outbreak category has dropped from 12 to 8 as of Friday.

An additional two centres have been classified as suspected – they harbour infected fish that have tested positive but have yet to show clinical symptoms or fatalities tied with ISA. The new total under this category is now 15.

In the meantime, two centres have ended their period of sanitary rest with six newly added to the category, which now totals 119, it was learned.

Related articles:

- [Salmon industry layoff attempts draw outcry](#)
- [Layoffs loom over salmon farming industry](#)

<http://www.sciencecentric.com/news/article.php?q=09040603-heart-skeletal-muscle-inflammation-new-infectious-disease-atlantic-salmon>



Heart- and skeletal muscle inflammation, a 'new' infectious disease of Atlantic salmon

Ruth Torill Kongtorp established during her doctorate that a new disease called heart- and skeletal muscle inflammation (HSMI) is a serious infectious disease of farmed Atlantic salmon, with a high potential for transmission. The increasing number of outbreaks of this disease in recent years indicates that it poses a significant threat to Norwegian salmon farming.

HSMI was discovered in 1999, and has since been found in disease outbreaks at many fish farms along the entire Norwegian coastline. In her doctorate, Kongtorp described the disease and compared the pathological findings to those of a number of known diseases such as pancreas disease (PD) and cardiomyopathy syndrome (CMS). Both field sampling and contact infection trials indicate that HSMI is a new disease caused by an unknown organism.

Kongtorp and her colleagues also investigated the progression of the disease in field and infection trials. HSMI primarily produces inflammation and cell death in the heart. This damage arises early on in the disease, and can continue for many months. The earliest changes found were inflammatory cells lining the blood vessels of the compact heart muscle layer, and in the lining layers of the heart muscle (the epicardium outside the heart and the endocardium inside). With time the heart muscle itself also becomes inflamed.

Salmon may develop significant damage in their heart musculature without showing obvious signs, but as a rule, outbreaks of disease with increased mortality start to occur when a significant amount of the heart is inflamed. HSMI produces heart changes in nearly 100% of affected fish. In this phase, inflammation and cell death spread to the red skeletal muscles, cell death to the liver, and oedema (swelling) and disturbed blood circulation to multiple organs of many fish.

Using infection trials, Kongtorp and her colleagues showed that several organs harbour the infectious organism during the acute phase of the disease. Samples of heart that contained the organism were taken two months before an outbreak, under the actual outbreak, and two months after the outbreak had subsided. The samples were capable of transmitting the disease to healthy experimental fish.

Cand. med. vet. Ruth Torill Kongtorp defended her Ph. D. thesis, entitled 'Heart and skeletal muscle inflammation (HSMI) in Atlantic salmon, *Salmo salar*: pathology, pathogenesis and experimental infection,' at the Norwegian School of veterinary Science, on 23 January 2009.

The work was carried out at the National Veterinary Institute, Oslo, ably assisted by fish health services and fish farmers. The project was financed by the Norwegian Research Council and by the Fishery and Aquaculture Industry Research Fund.

Source: [Norwegian School of Veterinary Science](#)

<http://portlincoln.yourguide.com.au/news/local/news/general/centrex-promises-lincoln-will-benefit/1480487.aspx>

Fairfax Digital

Centrex promises Lincoln will benefit

BILLIE HARRISON

6/04/2009 11:30:00 PM



SEAFOOD INDUSTRY: Australian Southern Bluefin Tuna Industry Association research manager David Ellis said Centrex had continuously failed to address the fishing and aquaculture industries' concerns.



NO IRON ORE: Barb Davis and Tanya Booker outside the Centrex community meeting on Wednesday night.



PROTEST: Beth ?, Sharon Lebrun, Melinda Wells, Musharella Puglisi, Mandy Hartigan, Tanya and Talia Booker, Lesley Easson and Margaret Tilsner protest against iron ore exports from Port Lincoln outside the community meeting last Wednesday night.



PROTEST: Beth ?, Sharon Lebrun, Melinda Wells, Musharella Puglisi, Mandy Hartigan, Tanya and Talia Booker, Lesley Easson and Margaret Tilsner protest against iron ore exports from Port Lincoln outside the community meeting last Wednesday night.



CENTREX: Centrex Metals Ltd managing director Gerard Anderson gave a presentation to the community on the company's plan to export iron ore from Port Lincoln.

CENTREX Metals answered the seafood industry's concerns about the effect of iron ore exports on the marine environment with an assurance that there would be "zero" impact.

But Australian Southern Bluefin Tuna Industry Association research manager David Ellis said the industry was not satisfied with the company's research.

Centrex managing director Gerard Anderson said hematite, which the company planned to export from Port Lincoln, was a very stable oxide of iron and independent research by the University of South Australia (UniSA) showed very low levels of risk to the marine environment if it was accidentally spilled into Boston Bay during handling.

Mr Anderson said Wilgerup hematite had very low solubility, 14.4 parts per billion in Boston Bay seawater.

"Under the worst case of a catastrophic sinking, 1.008 kilograms would be released into Boston Harbour," he said.

"The environmental risk posed by loading hematite from the main wharf is so infinitesimally small that it can reasonably be called zero."

However a CSIRO report commissioned by the local fishing industry said the UniSA report did not resolve the issue of whether iron ore from a shipping operation in Port Lincoln would have a significant impact on the local marine ecology.

The CSIRO report said literature indicated 0.000000005 grams of bio-available iron per litre could trigger a phytoplankton bloom in areas where iron was limiting and there was sufficient supply of other nutrients, and recommended further research of the potential impact including quantifying the existing conditions, and using bioassays to determine how local phytoplankton respond to additional iron.

With the amount of iron ore exported from other Australian ports Mr Anderson said if the marine environment was that sensitive to iron there should have been thousands of examples of algal blooms.

"We cannot find a single occurrence in the literature that is directly linked to iron ore," Mr Anderson said.

"If iron ore levels do increase as a direct result of Centrex operations then immediate action will be taken to rectify the situation with the regulator.

"The regulator will decide if operations will be stopped."

Mr Anderson said he did not believe the seafood industry's "self-imposed" clean green image was in danger but Mr Ellis said the risks were still very high to the fishing and aquaculture industries for the sake of eight jobs.

"Centrex has failed continuously to address fishing and aquaculture industries' concerns," Mr Ellis said.

<http://www.iabconference.org/>

Aquaculture Biosecurity Conference 2009

Now Open for Registration



**INTERNATIONAL
AQUACULTURE
BIOSECURITY
CONFERENCE**

**Practical Approaches for the Prevention,
Control, and
Eradication of Disease**
August 17-18, 2009
Trondheim, Norway

Held in conjunction
with [Aqua Nor 2009](#), the
international aquaculture venue.

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[Home Page](#)

[Agenda](#)

[Abstract Submission](#)

[Printable Flyer](#)

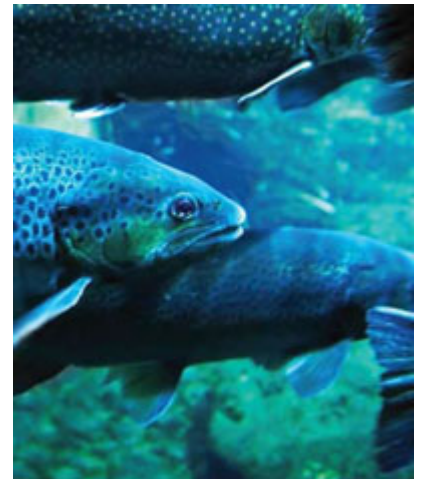
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A two day program of internationally-recognized keynote speakers and contributed posters on the following topics:

- Economic impact of disease and biosecurity programs
- Components of ideal biosecurity plans and programs
- International, regional and national strategies
- Identifying and prioritizing hazardous diseases and evaluating risks
- Determining and mitigating hazardous disease critical control points and risks
- Disease epidemiology, surveillance and monitoring
- Determining disease status and freedom
- Control and eradication contingency plans and programs
- Disease diagnostics, medical and farm record keeping
- Implementing, auditing and certifying biosecurity programs



The goal of this conference is to provide expert opinions and tools for implementing practical, economic, and effective biosecurity plans and programs. A call for posters is forthcoming on the website.

- Registration by June 1, 2009: NOK 3500 (~ \$500 USD)
- Registration after June 1, 2009: NOK 4500 (~ \$650 USD)

Aquaculture Biosecurity Conference 2009 Now Open for Registration

Hello,

You previously requested to be notified when more information was available about the Aquaculture Biosecurity Conference. We would like to notify you that the International Aquaculture Biosecurity Conference (IABC), scheduled for 17-19 August 2009 in Trondheim, Norway has opened its web page (www.iabconference.org) for registration and abstract submission.

The IABC is an international forum on current and future aquatic biosecurity practices for prevention, control, and eradication of diseases. Aquaculture producers, veterinarians, and government officials will convene in Trondheim to share opinions about practical approaches to biosecurity, just prior to the start of AquaNor, one of world's largest aquaculture trade shows.

Dr. James Roth, IABC co-chair and Director of Center for Food Security and Public Health at Iowa State University emphasized that "Aquaculture production has seen rapid growth and become a significant part of global animal agriculture in the recent years, but disease-related problems are becoming a significant threat to international trade and seafood safety."

Dr. Roar Gudding, IABC co-chair and Director of the Norwegian National Veterinary Institute said "The greatest obstacle to sustainable aquaculture development is spread of aquatic animal diseases. The goal of the International Aquaculture Biosecurity Conference is to provide expert opinions and tools for implementing practical, economic, and effective biosecurity plans to control and potentially eliminate disease impacts on the industry."

"Internationally-recognized speakers will spend two days with the conference attendees delivering a series of presentations and participating in round table discussions on the economic impacts of diseases and biosecurity programs, the components of ideal biosecurity plans, and development of international and national strategies," said Dr. Chris Walster, Secretary of World Aquatic Veterinary Medical Association and private aquatic veterinary practitioner from U.K.

Dr. Duđan Palic of the Iowa State University College of Veterinary Medicine said, "With increased occurrences of aquatic animal disease outbreaks worldwide, the IABC provides an interface of producers, health professionals and governments addressing timely topics such as identifying and prioritizing hazardous diseases, determining critical control points, epidemiology, surveillance and monitoring, and most importantly, implementing and certifying biosecurity programs at all levels."

Dr. David Scarfe of the American Veterinary Medical Association, voiced the opinion of the entire IABC executive board in saying, "We believe the conference will help set a solid framework for the development and implementation of biosecurity plans at all levels of aquaculture. It is our intention to develop practical and effective tools to assist in the prevention, control and possible eradication of many priority diseases. A good start in this endeavor is to outline and discuss the potential for industry-government cost-sharing programs related to biosecurity."

"We expect to welcome participants from aquatic veterinary organizations, aquaculture producers and industry organizations, government agencies, standard setting bodies, academic institutions and aquaculture related industries," said Dr. Torkjel Bruheim of National Veterinary Institute in Trondheim. "August is a great time to visit the west coast of Norway, and the Conference attendees will have numerous opportunities to engage in professional as well as leisure activities while in Trondheim. The IABC will organize a visit to nearby fish farms, and thousands of visitors involved in the business of aquaculture will be at the AquaNor, providing many opportunities for networking."

The Conference is organized by the Norwegian National Veterinary Institute, the Center for Food Security and Public Health and the Institute for International Cooperation in Animal Biologics, College of Veterinary Medicine, Iowa State University, the American Veterinary Medical Association, the Norwegian Veterinary Association, the Atlantic Veterinary College, University of Prince Edward Island, and the World Aquatic Veterinary Medical Association.

Conference sponsors currently include the Norwegian Ministry of Fisheries and Coastal Affairs, the Norwegian National Veterinary Institute, the Research Council of Norway, the Norwegian Veterinary Association, AquaNor, the OIE, the American Veterinary Medical Association, the Center for Food Security and Public Health, Intervet Schering-Plough Animal Health, Novartis Animal Health, Europharma, Pharmaq, and the World Aquatic Veterinary Medical Association.

To register or to submit an abstract go to <http://www.iabconference.org/>

<http://www.fis.com/fis/worldnews/worldnews.asp?l=e&country=&monthyear=&day=&id=31901&ndb=1&df=0>



The latest agreement signed with Canada falls under a greater accord signed last year, said Chile's Jorge Chocair. (Photo: SUBPESCA/Stock File)

Aquaculture fostered in deal with Canada



CHILE

Thursday, April 02, 2009, 00:20 (GMT + 9)

An agreement bolstering bilateral cooperation in aquaculture was signed by Chilean and Canadian officials in an event marking the end of the First Meeting of the Joint Committee of Bilateral Cooperation between the two countries.

The Joint Committee was established with a view to promoting and facilitating initiatives strengthening the management and sustainability of aquaculture, official sources indicated.

Fisheries subsecretary of Chile, Jorge Chocair, and the vice-minister of Fisheries and Oceans of Canada, Wendy Watson-Wright, signed the accord.

Under the agreement, Chilean officials will travel to Canada and exchange and impart aquaculture information as well as learn of the Canadian experience in holistic aquaculture management, *EFE* reports.

"This agreement falls under a greater accord signed last year with Canada Fisheries Minister [Loyola Hearn]. Already, the first meeting of the permanent committee has been held and certain concrete and well-defined action plans settled on," Chocair explained.

On 26 March 2008, Minister Chocair and the Chilean subsecretary signed an agreement on technical, scientific and economic cooperation that advances joint strategies on aquaculture management, development and sustainability.

"We are making great strides for Chile through this international association in terms of sustainably developing aquaculture, promoting access to new markets, fortifying productivity standards, and contributing to the dynamism of trade and investment," Chocair said at the time.

Meanwhile, the Canadian official pointed to both the aquaculture industries of Canada and Chile sharing a "tremendous potential for sustainable growth."

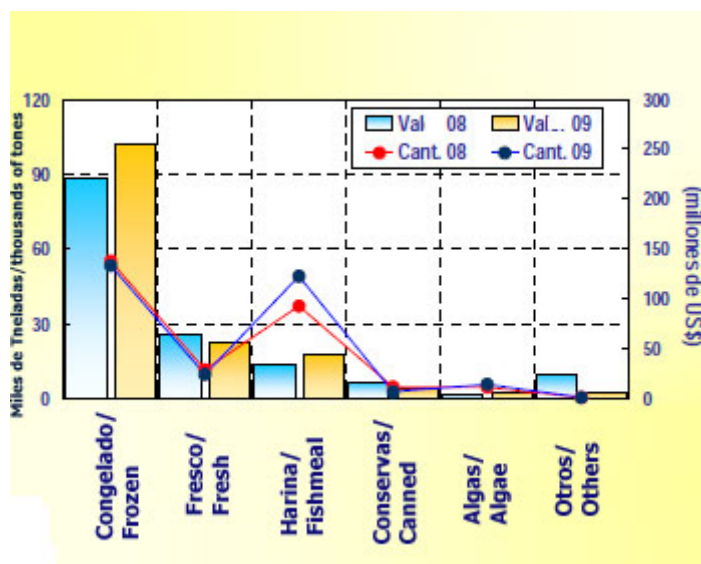
"International cooperation among similar and responsible nations is vitally important. I believe that Canada and Chile can learn a great deal mutually in that each has developed solid procedures that can help us drive this industry forward," Hearn had stated from Port Montt after signing the first agreement at the inauguration of industry fair Aqua Sur 2008.

Related article:

- [Aquaculture cooperation deal signed with Canada](#)

By *Analia Murias*
editorial@fis.com
www.fis.com

<http://www.fis.com/fis/worldnews/worldnews.asp?l=e&country=&monthyear=&day=&id=31888&ndb=1&df=0>



Chilean fish exports by product line for the month of January. (Photo: SUBPESCA)

Seafood exports spike in value, volume



CHILE

Tuesday, March 31, 2009, 23:20 (GMT + 9)

Chilean wild fish and aquaculture exports generated USD 390.1 million in sales in January, which represents an increase of 7.8 per cent compared to the USD 362 million registered in the same period in 2008, Fisheries Subsecretariat (SUBPESCA) statistics reveal.

In terms of volume, exports jumped 3.1 per cent from 122,576 tonnes in January 2008 to 126,340 tonnes in January 2009, states the latest *SUBPESCA Fisheries and Aquaculture Sector Report*.

Sales of frozen seafood products and fishmeal were the largest contributors in terms of volume in accounting for 42.2 per cent and 38.8 per cent of total seafood sales, respectively.

Refrigerated fresh products, dry algae and fish oil took second, third and fourth place.

The average price of seafood exports through January was USD 3.10 per kg, slightly up over the USD 3 per kg registered in same month last year.

Atlantic salmon was the most exported product with 32.8 per cent of the total value of Chilean export sales, SUBPESCA statistics show. Pacific salmon, rainbow trout and the pelagics fish group were next in terms of value.

Chilean seafood is exported to 72 countries, nine of which serve as the mainstay market destinations for 88.3 per cent of total exports. Among the latter group, Japan and the United States stood out, with sales representing 59.4 per cent in value; followed by China, South Korea and France.

An estimated 69,300 tonnes of wild seafood product exports generated a total of USD 107 million in January, which represents an 8 per cent increase compared to January of last year.

January export sales of fishmeal totalled 49,079 tonnes worth USD 44 million, significantly higher than last year's 37,136 tonnes, valued at USD 33.3 million. China, Japan and Spain were the main markets for this category; while shipments to South Korea and Vietnam registered lower numbers this year.

Broken down, 57.7 per cent of total exports was of prime quality fishmeal, and 41.4 per cent of both super prime and standard quality, SUBPESCA data reveals.

Export sales of frozen seafood products totalled USD 37.5 million in January, a 10.8 per cent hike compared to the same month of 2008. The main markets for these products were the United States, Spain and Japan, which accounted for 27.4 per cent, 20.9 per cent and 13.5 per cent of destination market shares, respectively.

Canned product export sales in January totalled USD 8.3 million, 36.5 per cent less than in 2008. The main markets for these were Spain, Sri Lanka and the US, which accounted for 30.8 per cent, 21.1 per cent and 8.5 per cent, respectively

Fresh refrigerated seafood products exported in January 2009 amounted to USD 51 million, 12.2 per cent less than the previous year, SUBPESCA details.

The main destination markets for refrigerated fresh wild seafood were the US, Brazil and Canada.

By *Analia Murias*
editorial@fis.com
www.fis.com

<http://www.growfish.com.au/content.asp?ContentId=13118>

NMC progress in aqua-farming wows visiting aquaculture exec

The Northern Marianas College Cooperative Research Extension and Education Services, a program under the Division of Community Programs and Services, was recently praised for its efforts in promoting aqua-farming in the CNMI.

Dr. Cheng-Sheng Lee, director of the Center for Tropical and Subtropical Aquaculture, visited CREES on March 26 for an inspection of the progress of aquaculture in the CNMI and was impressed by CREES's activities to date and by its plans for future promotion.

CTSA is one of five regional aquaculture centers in the United States established by the U.S. Department of Agriculture. The regional aquaculture centers integrate individual and institutional expertise and resources in support of commercial aquaculture development. CTSA was established in 1986 and is jointly administered by the Oceanic Institute and the University of Hawaii.

Lee was treated to a tour, led by NMC-CREES director Ross Manglona and aquaculture specialist Michael Ogo, through the NMC aquaculture facility to show CREES' several grow-out trials with tilapia, shrimp, and abalone. Afterward, the group met to discuss future plans.

Lee stressed the viability of aquaculture in the CNMI, especially since the geographical isolation of the islands warrants disease-free cultured fish. While other fish culturing countries are fighting an expensive battle against bacteria and viruses, the CNMI could brand their products disease-free with a minimal investment in biosecurity.

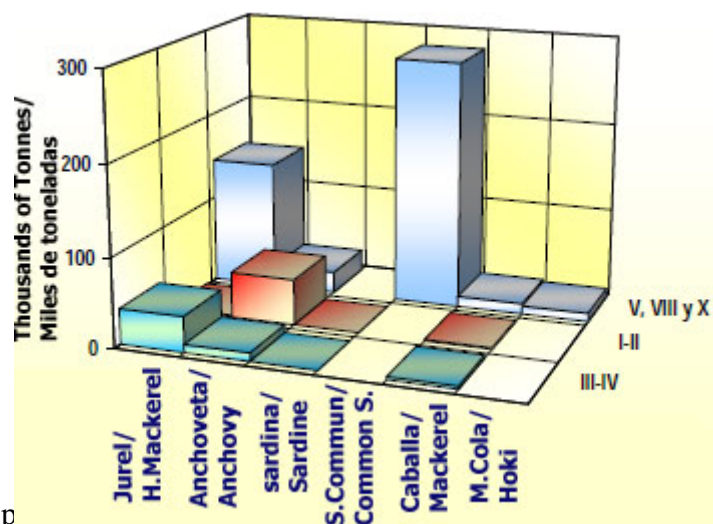
"There is a huge economic potential into which the CNMI can tap," said Lee. "The CNMI is very close to Southeast Asia, where the biggest markets for sea food are located."

After the tour around the research facility, the group visited several of CREES' clients in Fina Sisu, Navy Hill, San Roque and Chinatown. At these locations, Lee was shown several designs of fish tanks, ranging from low-cost backyard operations to more sophisticated ventures. He was amazed that the Palms Resort in San Roque, where CREES had released some 80,000 fries, also uses the shrimps as a tourist attraction in its artificial lagoon.

CREES staff also showed Lee the different designs of the filter systems used in their tanks.

"Our filters are built locally at the YMBM shop for about the quarter of the price for an imported system," said Ogo. "This is a perfect example of how the whole CNMI economy can take advantage from the multiplier effect a strong aquaculture industry is able to deliver."

<http://www.fis.com/fis/worldnews/worldnews.asp?l=e&country=&monthyear=&day=&id=31870&ndb=1&df=0>



Major fish landings by sp

09. (Graph: SUBPESCA)

Fish landings leap 55 pct thru February



CHILE

Monday, March 30, 2009, 22:30 (GMT + 9)

Total fish harvests landed through February 2009 totalled 1,029,532 million tonnes – 55.4 per cent more than the 662,526 tonnes registered for the same period the year before, the Fisheries Subsecretariat (SUBPESCA) recently indicated.

According to the agency's latest *Fisheries and Aquaculture Sector Report*, the wild capture fisheries and aquaculture sectors contributed some 730,700 tonnes and 298,800 tonnes, respectively, to the total harvest in the first two months of the year.

An estimated 56.1 per cent of the landings were of pelagic fish, a slightly lower percentage than the 58.2 per cent registered last year.

Anchovy, jack mackerel, and common sardine accounted for 38.2 per cent, 25.6 per cent and 11.6 per cent, respectively, of total wild capture landings through February in Chile.

Regions V to X received 470,000 tonnes of total landings - the biggest share at 81.3 per cent. Regions I and II received 55,000 tonnes, or 9.6 per cent of the total, while Regions III and IV received 52,700 tonnes - 9.1 per cent of the total.

Southern hake accounted for 1,600 tonnes of demersal fish landings through February - a 2.2 per cent increase compared to the same period in 2008.

Most of the catch volume – 1,100 tonnes - was unloaded by the artisanal fleet. Commercial fishing vessels, in turn, landed 459 tonnes.

Common hake landings through February totalled 7,500 tonnes, a 75.3 per cent hike over the same period last year, SUBPESCA found.

Landings of Patagonian toothfish (Chilean sea bass) registered 311 tonnes in the first two months of 2009, that is, a 18.7 per cent increase over January and February 2008.

No yellow shrimp landings were registered through February.

An estimated 97 tonnes of golden kingclip were also landed this year through February, compared to 37 tonnes in the same period in 2008.

Meanwhile, the National Fisheries Service (SERNAPESCA) indicated the aquaculture harvest totalled 197,469 tonnes in January, which represents a staggering 197.4 per cent surge over the 66,391 tonnes recorded for January 2008.

The main products caught were Atlantic salmon, mussel, and rainbow trout, which each accounted for 64.3 per cent, 15.9 per cent, and 10 per cent of the total harvest, respectively. Regions X and XI harvested the most output with totals of 163,800 tonnes and 29,800 tonnes, respectively.

The Pacific salmon harvest in January 2009 amounted to 126,937 tonnes – a whopping 361.1 per cent more than the 27,532 tonnes generated in January 2008. Regions X and XI produced the most with harvests of 117,700 tonnes and 9,200 tonnes, respectively.

Chile's Atlantic salmon harvest totalled 31,542 tonnes in January – 66 per cent more than the total volume of 19,005 tonnes in January 2008. Regions X and XI also harvested the most output, with 15,600 tonnes and 15,200 tonnes, respectively.

The country's mussel harvest soared 179.8 per cent in the first month of the year in having produced 19,815 tonnes compared to 7,081 tonnes in the same period in 2008. The entire harvested production originated from Region X.

By *Analia Murias*
editorial@fis.com
www.fis.com

<http://www.northernadvocate.co.nz/localnews/storydisplay.cfm?storyid=3796499&thesection=localnews&thesubsection=&thesecondsubsection=>

The Northern Advocate



Oyster and finfish farming could pump \$10 million into Northland a year. Picture/John Stone

\$10m BOOST: Oysters may be export pearls

30.03.2009

by Imran Ali

Finfish and oyster farming could pump at least \$10 million into Northland a year if a Government push to increase productivity proves successful, Fisheries Minister Phil Heatley says. The ministries for the environment and fisheries are investigating opportunities for aquaculture growth in Northland, particularly oyster and finfish, in a bid to increase exports and boost employment

numbers.

But oyster farmers say the Government and Northland Regional Council (NRC) must first guarantee water quality before people started investing in aquaculture.

Spokesman Alan Tindall, who was forced to move his oyster farms from the polluted Waikare Inlet to Orongo Bay in 2001, said pollution was the key issue before there was any aquaculture expansion.

He was among 11 oyster farmers who were forced to shut up shop following sewage spills and consequently faced a legal bill of more than \$300,000.

Mr Heatley, who is also MP for Whangarei, said 19 aquaculture marine areas (AMFs) around the region would be examined for their potential as marine farms, as well as other promising sites.

He said the industry could be worth an extra \$10 million-plus a year, if managed properly.

Initially, the Ministry for the Environment will talk to NRC, iwi, farmers and others with an interest in aquaculture on areas and types of farming they consider worthy of further investigation.

"There are huge opportunities in aquaculture if only the public would recognise [it] because there is investment in water when growing produce [and] on land for processing, and overseas markets," Mr Heatley said. Sadly, he said, the industry had stagnated for years, partly because of the "shambles" of the Resource Management Act (RMA).

He said good water quality was key for aquaculture which he described as "canary in the coalmine," although he didn't want to be drawn on the sewerage problems affecting parts of Northland.

Reacting to the government announcement, Mr Tindall said apart from cleaning up the mess at Waikare Inlet farms and water quality, NRC now wants to levy aquaculture farmers \$22,000 per hectare as a bond.

The levy will help NRC cover the cost of cleaning up farms should farmers decide to abandon them.

"On one hand, the Government is trying to help small businesses and on the other, the regional council is putting the oyster industry out of business," Mr Tindall said. However, NRC consents manager Dave Roke said provision for a bond was provided for under the RMA but nothing had been decided. The only species farmed in Northland waters are oysters and mussels. There are about 650ha of oyster farms and 25ha of mussels, most of which are just north of Houhora Heads, in the region.

<http://www.patagoniatimes.cl/index.php/20090325777/News/Salmon-News/CHILE-SALMON-WORKERS-TO-BACHELET-WE-NEED-HELP.html>



CHILE SALMON WORKERS TO BACHELET: "WE NEED HELP"



Written by Patagonia Times

Wednesday, 25 March 2009



Bachelet announces labor stimulus plan

Photo courtesy of Gobierno de Chile

Labor leaders met Tuesday with President Michelle Bachelet to express their growing concerns over the wave of layoffs that continues to affect Chile's once-booming farmed salmon industry.

During a brief meeting in Puerto Montt's El Tepual Airport, National Confederation of Chilean Salmon Workers (CONATRASAL) head Javier Ugarte and other union leaders told the president that 17,000 industry jobs have been lost since mid 2007, when Infectious Salmon Anemia, or ISA, first appeared in Chilean waters. ISA is a highly contagious virus that can be lethal to fish but does not affect humans.

Those Region X and XI workers, they went on to say, need direct government assistance as they're finding it next to impossible to find new jobs.

"The lack of economic alternatives in the southern regions, which are highly dependent on (salmon farming), makes it unlikely the 17,000 workers who've been laid off by the salmon industry will find new jobs quickly," the labor representatives explained in a letter addressed to the president.

Bachelet was in Puerto Montt to attend a meeting with the Regional Employment Committee, which is set to launch a US\$150 million labor stimulus plan that looks to create some 11,000 new jobs in Region X.

"The president showed real concern for what's happening to the industry," said Ugarte. "She's informed about what's happening with the workers."

Ugarte and his colleagues, nevertheless, insist the government needs to be even more aggressive in its efforts to address the problem. According to the CONATRASAL head, the number of layoffs could eventually reach 25,000. Prior to the current ISA outbreak, Chile's then peaking farmed salmon industry is thought to have employed roughly 55,000 people.

"We told the president we don't want to be lumped together with all the other employment problems taking place in the country, because we've been talking about this since the ISA problem first appeared in 2007," said Ugarte. "We want an exclusive deal."

In 2006 the Chilean farmed salmon and trout industry earned a record US\$2.207 billion, capping off an impressive 15-year run during which production expanded by an incredible 2,200 percent. Between 2003 and 2006 alone, export earnings grew by an average 22 percent per year, prompting predictions that Chile would soon surpass Norway as the world's top producer.

The appearance of ISA in 2007 brought the prolonged boom to a sudden end. That year, as the disease began spreading throughout Chile's southernmost regions, growth stalled. By 2008 it became increasingly clear that the industry – which began shedding jobs in earnest – had a real problem on its hands.

2008 production totals were actually up over the previous year, though only because salmon producers prematurely harvested fish as a way to avoid possible ISA infection.

Now, without fish to process, production is expected to drop significantly, promising thousands more job cuts.

In a recent interview with the Region X daily El Llanquihue, Víctor Hugo Puchi, who heads Chilean-owned salmon company AquaChile, predicted that production will drop by 40 percent this year. He said the industry will need five years to recover from the crisis and admitted that producers, wholly unprepared for the ISA crisis, made "many mistakes."

“I think we all agree that we can’t go back to operating under the kinds of liberties we once did. Self regulation doesn’t work,” said Puchi, a leading member of the private trade association SalmonChile.

Puchi’s so-called “mea culpa” drew applause from the Santiago-based environmental NGO Ecoceanos, which has complained for years that the salmon industry – left largely to its own devices – has run ram shod over both the environment and workers’ rights.

“We appreciate that Víctor Hugo Puchi recognizes publicly that the salmon industry’s poor practices have been responsible for the major economic, health, environmental and social crisis that is affecting Chile’s southern regions,” said Ecoceanos Director Juan Carlos Cárdenas.

“This distinguishes Puchi from the other multinational salmon producers in Chile who have kept quiet since July 2007,” he added.

By Patagonia Times (patagoniatimes@gmail.com)