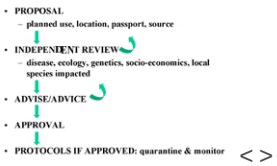
http://www.fao.org/fishery/topic/14782

Codes of practice on species introductions

This figure represents a code of practice for the responsible use of introduced species. The process is interactive in order to modify proposals and act on advise of review



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FAO/FIRI/D.Bartley

The **International Council for the Exploration of the Sea** (ICES) and the **European Inland Fishery Advisory Commission** have developed codes of practice on the use of introduced species. These codes generally apply to the purposeful movement of aquatic species, for example, in fisheries, biological control, aquaculture, and for research. There are also guidelines and policy concerning species introduced inadvertently through **ballast water** or on ships' hulls.

The basic Code (see figure) requires that:

1. the entity moving an exotic species develop a PROPOSAL, that would include location of facility, planned use, passport information, and source of the exotic species;
2. an independent REVIEW that evaluates the proposal and the impacts and risk/benefits of the proposed introduction, e.g. pathogens, ecological requirements/interactions, genetic concerns, socio-economic concerns, and local species most affected would be evaluated;
3. ADVICE and comment are communicated among the proposers, evaluators and decision makers and the independent review ADVISES to either accept, refine, or reject the proposal so that all parties understand the basis for any decision or action, thus proposals can be refined and review panel can request additional information on which to make their recommendation;
4. if approval to introduce a species is granted QUARANTINE, CONTAINMENT, MONITORING, AND REPORTING PROGRAMMES are implemented, and
5. the ONGOING PRACTICE of importing the (formerly) exotic species becomes subject to review and inspection that check the general condition of the shipments, e.g. checking that no pathogens are present, that the correct species is being shipped.

The Code is general and can be adapted to specific circumstances and resource availability, but it should not lose any of the above requirements nor should it lose the rigor at which the requirements are applied. For example, a regulatory agency may require a proposal to contain a first evaluation of the risk/benefits and this evaluation would then be forwarded to an independent review or advisory panel; or the advisory panel could make the first evaluation of a proposal. Similarly, states may require quarantine procedures to be explicitly described in the proposal before approval is granted.

Source information

Codes of practice on species introductions

http://www.redorbit.com/news/science/1400896/present_and_future_issues_in_aquaculture/

redOrbit

Present and Future Issues in Aquaculture

Posted on: Saturday, 24 May 2008, 03:00 CDT

By Silverstein, Jeff

Our nation's inland waters and coasts provide a wide variety of seafood with diverse health benefits. Fish are high in protein and low in fat, and they have an excellent balance of nutritious fatty acids. As per capita consumption of seafood rises in the United States and throughout the world, ARS scientists across the country are exploring research and development solutions to some of aquaculture's biggest challenges: developing domesticated lines of aquatic animals for farmed production, improving aquatic-animal health and growth efficiency, conserving water resources, and developing novel diets and feed ingredients.

ARS has made significant contributions to the field of aquaculture genetics. Domestication and improvement of hybrid striped bass and yellow perch are in the early stages, while breeding programs for catfish, rainbow trout, Atlantic salmon, and oysters are well under way. Scientists at the Catfish Genetics Research Unit in Stoneville, Mississippi, and at the National Center for Cool and Cold Water Aquaculture in Leetown, West Virginia, are engaged in genomic research and genetic-improvement efforts for channel catfish and rainbow trout. Their work has begun to pay dividends as the genes involved in complex traits such as disease resistance, fillet yield, and response to stress are becoming better understood. In catfish and rainbow trout, selective breeding programs are under way to improve resistance to major bacterial pathogens.

ARS is actively pursuing several strategies for controlling aquatic-animal health, including vaccine development, selective breeding for disease resistance, and therapeutics. Scientists at the Aquatic Animal Health Research Unit, in Auburn, Alabama, have developed and licensed vaccines for enteric septicemia of catfish and columnaris, major pathogens of catfish culture. Other vaccines for warm-water fish diseases are currently in development there, too.

Studies conducted at the Harry K. Dupree Stuttgart National Aquaculture Research Center in Arkansas are leading toward federal approval of copper sulfate to treat fish diseases. Development of novel disease-control strategies, such as bacteriophage therapy, is progressing in Leetown. Because disease is the main cause of fish mortality in aquaculture facilities, these prevention tools could save aquaculture industries millions of dollars.

An equally important aspect of ARS aquaculture research involves conservation of a precious and limited resource: water. Water-recirculation technologies are being developed by collaborators at the Conservation Fund's Freshwater Institute, in Shepherdstown, West Virginia, to maximize water quality in culture tanks by removing and concentrating waste. ARS scientists at the Harbor Branch facility in Fort Pierce, Florida, are exploring methods for growing marine fish in low-salinity water. The water is being treated for waste removal and recirculated through the culture tanks. With water-treatment costs increasing, high-intensity reuse systems like this are proving economically viable for high-value species.

Improving the efficiency with which animals convert feed into flesh is another integral aspect of ARS research. Feed expenses represent a large portion of animal production costs. Improving the efficiency of nutrient retention-the rate at which consumed nutrients are incorporated into the edible portion of the animal-is an important economic consideration.

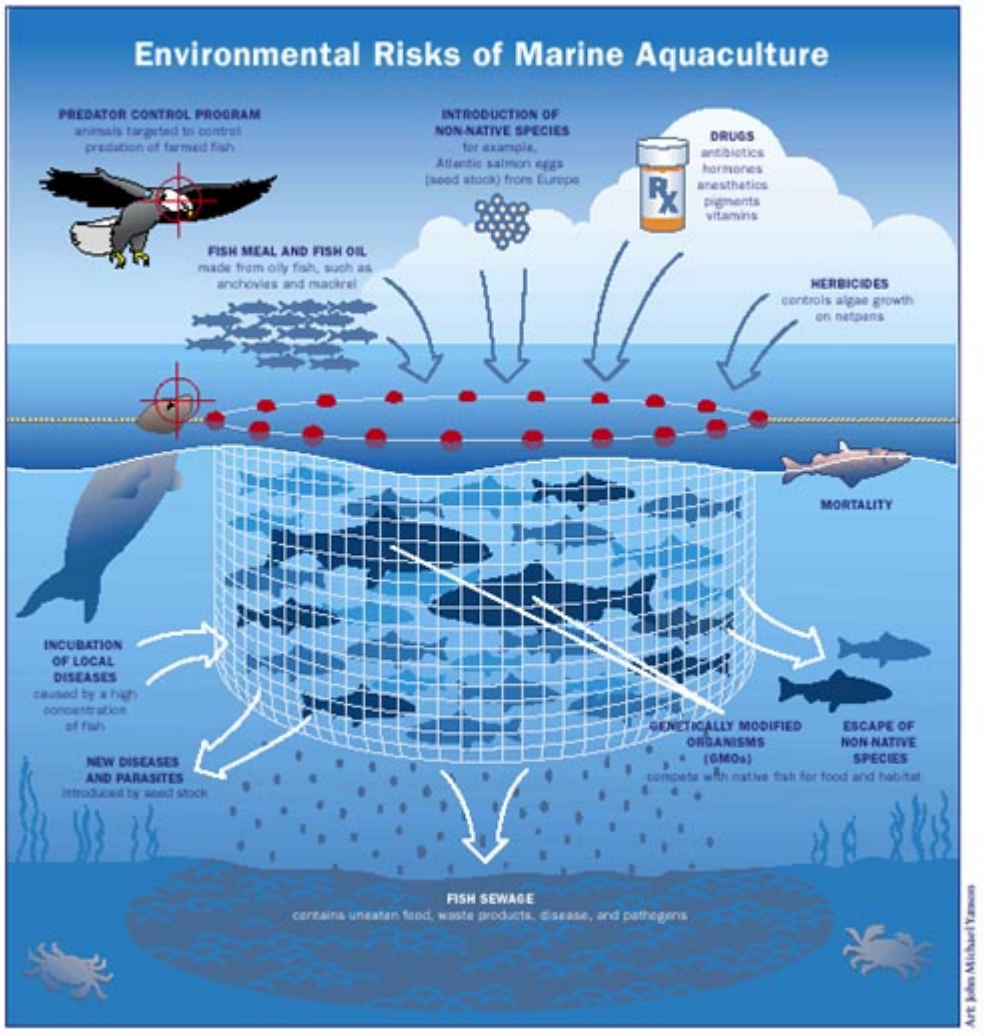


Illustration showing aquaculture risks. Credit: NOAA

Increasing nutrient retention decreases undesirable release of nutrients into the environment. Nutrient use and growth efficiency are important components of research in our hybrid striped bass, rainbow trout, and catfish programs. Our scientists have identified rainbow trout with higher growth and proteinretention efficiency and are investigating the physiological mechanisms of nutrient digestion and metabolism in catfish and rainbow trout.

An associated challenge is the source of nutrients for fish feeds. As aquaculture production increases worldwide, the harvest of fishmeal and fish-oil species has remained steady, increasing the need for additional sources of protein and lipid content. ARS and University of Idaho scientists at the Hagerman Fish Culture Experiment Station in Idaho are developing diet formulations using sustainable plant-derived proteins with amino acid profiles that will support animal growth.

Of particular interest is the use of coproducts from ethanol and biodiesel production. Auburn scientists have observed excellent growth responses in catfish and tilapia after incorporating an ethanol production coproduct, dried distillers grains with solubles, into their feed. This is one of many ARS research projects focusing on diet development using non-fishmeal proteins and oils.

Farmed finfish aren't the only focus of ARS aquaculture research. Our work on oyster culture is steadily gaining momentum. An excellent example of this innovative research can be found in the story beginning on page 4, which describes how ARS researchers in Oregon are helping oyster producers respond to nonedible shrimp pests.

The United Nations Food and Agriculture Organization estimates that more than 40 percent of the seafood consumed worldwide is coming from aquaculture and that production must double to meet the expected demand by 2030. Momentum for marine-based systems is also growing. With strong interdisciplinary linkages and important contributions from a broad array of cooperating producer groups, agencies, universities, and other organizations, ARS's national program in aquaculture provides a strong foundation for building up the domestic capacity for aquaculture production.

Source: Agricultural Research

More News in this Category

http://www.fishfarmer-magazine.com/news/fullstory.php/aid/1668/Marine_Farms_under_fire_from_shareholder.html

Fish Farmer

Marine Farms under fire from shareholder

23 May, 2008 -

MARINE Farms has come under heavy criticism from a major shareholder for not paying dividends.
In a letter to the shareholders, board and CEO of Marine Farms, Greece-based Nireus Aquaculture – which with a 33 per cent share is the largest shareholder in Marine Farms – criticised the company's divided policy, its failure to restructure and its loans policy and currency risk.
The letter came in advance of the forthcoming annual shareholders meeting of Marine Farms, due to be held on May 27.
Marine Farms, which listed on the Oslo stock exchange in 2006, did not pay dividend payments to its shareholders in 2006 or 2007.
In the letter, Aristides Belles, chairman of the board and MD of Nireus Aquaculture, said he had been informed that this dividend policy was set to continue in the future, a move that Nierus strongly opposes.
"If Marine Farms is not to provide dividends it should not have become listed in the first place, as international experience indicates that listed companies do provide dividends to their shareholders," he wrote.

In terms of restructuring, Aristides Belles said the company's "complicated and costly" structure should be changed.
"Our experience indicates, and we are a company that in the past has had many subsidiaries and acquired many companies, that it is best for costs, management and clarity purposes to have a group consisting of as few entities as possible."
Marine Farms' loan policy also came in for criticism for involving "considerable currency risk" and leading to currency losses.

Printer friendly version

http://fishfarmer-magazine.com/news/fullstory.php/aid/1671/Abalone_Aquaculture_Dialogue_begins.html

Fish Farmer

Abalone Aquaculture Dialogue begins

23 May, 2008 -

THE process of creating standards for certifying farmed abalone is underway, WWF announced today.

It says the standards will help minimise the key environmental and social impacts associated with abalone production.

At the first meeting of the Abalone Aquaculture Dialogue, held in Australia last month, participants identified the key impacts associated with abalone farming and agreed on overarching goals (a.k.a. principles) to address those impacts. The impacts discussed relate to biosecurity, genetics and the ecosystem effects of abalone aquaculture.

Dialogue participants also made significant progress in categorising criteria, which are specific areas to focus on in order to reduce the impacts of abalone farming. For example, participants identified disease, broodstock/seed procurement, and the translocation of exotics as key criteria in addressing biosecurity issues. For a summary of these and other issues discussed at the meeting, go to www.worldwildlife.org/abalonedialgoue

The standards will be based on the impacts, principles and criteria, as well as indicators that will be developed at the Dialogue meetings in South Africa and Thailand within the next year.

“We recognise that environmental sustainability is critical to future rural growth and prosperity through aquaculture,” said Dr Ann Fleming of the Australian Abalone Growers Association. “The outcomes of this Dialogue meeting will be built on in future Dialogues in other countries. Australian farmers look forward to continuing to work with WWF to improve on their existing environmental credentials and gain global recognition for their lead role and dedication to protecting the environment.”

The standards will be effective because they will be measurable, based on the newest science related to abalone aquaculture, and developed with input from a diverse group of abalone industry stakeholders, including producers, academics, retailers, NGOs and government officials, WWF says.

Approximately 70 percent of the abalone consumed globally is produced on farms. Farming of abalone began in the late 1950s in Japan and China. More than 80 percent of farmed abalone is grown in China. The remaining production comes mainly from South Korea, South Africa, Taiwan, Australia, Chile and the United States.

“Although abalone are a type of mollusc, the biological requirements and cultivation techniques used to grow the species differ significantly from filter-feeding bivalve shellfish,” said Jose Villalon, director of the WWF-US aquaculture programme. “We have initiated an abalone-specific Dialogue to address the unique challenges posed by this type of aquaculture. As with all of the Aquaculture Dialogues, we will be working with industry leaders, NGOs and other stakeholders to create voluntary science-based standards that will encourage innovation and lead to increased sustainability.”

This is one of six Dialogues coordinated by WWF to develop standards for certifying aquaculture products. Other Dialogues underway are for salmon, shrimp, tilapia, bi-valve shellfish and pangasius. For more information about the Dialogues, go to www.worldwildlife.org/aquadialogues

www.fishfarmer-magazine.com is published by Special Publications. Special Publications also publishes FISHupdate.com, FISHupdate magazine, Fish Farmer, the Fish Industry Yearbook, the Scottish Seafood Processors Federation Diary, the Fish Farmer Handbook and a range of wallplanners.

Dialogue Information from Melbourne go to
http://www.worldwildlife.org/abalonedialogue

Presentations:
http://www.worldwildlife.org/what/globalmarkets/aquaculture/item9092.html

http://www.news.com.au/adelaidenow/money/story/0,26907,23721146-5015839,00.html

Adelaidenow...

Rich harvest continues in agricultural investments

NIGEL AUSTIN, RURAL EDITOR | May 19, 2008 09:30am

THE annual hunt for the most tax-effective managed investment schemes in agricultural projects is expected to raise about $1.2 billion this year.

Investors have the choice of more than 50 different projects across a variety of traditional and exotic rural products including organic apples, ginseng, citrus, almonds, olives, pearls, abalone, forestry, walnuts, mahogany and truffles.

Soaring food prices have made some projects more viable than in the past, but whether it lifts investment in the projects above last year's record $1.26 billion will not be known until after June 30.

MIS projects developed by Great Southern and Timbercorp have alone raised $3.3 billion to pour into the sector since the early 1990s, delivering a new source of money for the industry.

Adviser Edge managing director Shane Kelly said investors had plenty of choices this year, possibly for the last time.

The choices will not be around next year if the Australian Tax Office wins a test case and bans non-forestry MIS projects - which Mr Kelly says could curtail investment in agribusiness.

"It is creating a lot of jobs in the regions, but if you stop the MIS projects then jobs and development in those industries is lost," he said.

Adviser Edge and the Australian Agribusiness Group provide independent advice about the projects on offer each year.

"Given what we are seeing in equity markets and a generally flat economy, it is hard to see a big lift in sales this year," Mr Kelly said.

"Our view is for investors to build as much diversity as possible into their portfolio this year because the only investments available after this year will be forestry."

Mr Kelly said the industry was now mature enough that it could successfully switch to a capital rather than a tax-based investment model.

"A move to more of a capital focus will to some extent take away some of the criticisms of the sector," he said.

Australian Agribusiness Group director Tim Lee said previous projects had provided mixed performances, and the quality of investments on offer had improved over time.

Financial planners say people should not make an investment purely to gain a tax deduction.
Some of this year's managed investment schemes are listed in the table, right.

The largest managed investment scheme operator is the Great Southern Group, which has a 40 per cent market share.

It grew from a forestry project of less than $5 million in 1993-94 to raising $412 million alone last year and is among the nation's top five producers of beef, wine grapes, olives and almonds.

Its South Australian assets include significant forestry in the Green Triangle region and on Kangaroo Island as well as large scale vineyards.

As a result of the ATO's proposed ban on non-forestry MIS projects after June 30, Great Southern has launched some new funds that fall outside the tax-effective area.

They include a Rural Opportunities Fund, an all-year investment which gives people access to a broad range of agricultural assets including poultry, water, land, wheat and cotton.

Great Southern's projects this year include pulpwood forestry, a high-value timber project growing teak and African mahogany trees in the wet tropics and projects growing olives, wine grapes and almonds.

A major operator in SA, Australian Bight Abalone, has raised $22 million from managed investment projects in 2005, 2006 and 2007. It plans to raise at least $35 million this year for investment in its Elliston abalone farm.

Chief executive Andrew Ferguson said it had just signed a five-year contract worth about $130 million to supply abalone to the U.S.

It expects to harvest abalone worth $15-$20 million in 2009 as it progresses towards fulfilling an ambition to become the world's largest abalone grower.

http://www.sciencealert.com.au/news/20082205-17363-2.html

ScienceAlert
Australia & New Zealand

Tool to improve ocean aquaculture

Thursday, 22 May 2008

Australian Institute of Marine Science

A new automated tool that provides support for sea cage aquaculture managers in making crucial decisions about locating their sites and determining the number of fish that can be sustainably farmed is now available.

A project undertaken by the Australian Institute of Marine Science (AIMS) in collaboration with the Indonesian Ministry of Marine Affairs and Fisheries, and funded by the Australian Aid Program through the Australian Centre for International Agriculture Research (ACIAR), has developed a user-friendly decision support tool available on CD and the Internet.

CADS_TOOL (Cage Aquaculture Decision Support tool) is immediately useful to finfish aquaculture in South East Asia but is equally useful in tropical Australia, according to AIMS researcher Dr David McKinnon.

Australia does not yet have a lot of tropical sea cage fish farming, with only two such farms producing barramundi in northern Australia, including one near Cardwell. The major growth area for tropical sea cage aquaculture is South East Asia.

“Indonesia in particular has a huge need for management tools in aquaculture development,” Dr McKinnon said.

“It is the largest aquaculture producer in South East Asia and the industry nearly trebled in size between 1995 and 2000,” he said.

Indonesian aquaculture mostly produces high value finfish such as coral trout, which fetch around $90 per kilogram live on the Hong Kong wholesale market.

To address the huge growth in South East Asian aquaculture, the AIMS/ACIAR project employed physicist Dr Halmar Halide to develop a simple yet robust tool that any sea cage aquaculture manager could access and use.

Dr Halide, who was on secondment to the project for two and a half years, returned recently to the Physics Department at Hasanuddin University in Makassar, South Sulawesi.

The tool that he devised assists with site classification and selection, and determines how many fish can be held at a particular location. To view the tool, click

here. http://www.aims.gov.au/docs/research/sustainable-use/tropical-aquaculture/cads-tool.html

(Technical Guide http://data.aims.gov.au/cads/CADS_TOOL_Technical_Guide.pdf)

It is planned to also make the package available on CD from AIMS.

One of the major challenges associated with growing fish in sea cages is finding the right place to put the cages. Site selection is the biggest factor in determining the commercial viability of a sea cage aquaculture operation, according to Dr McKinnon.

Finding a location that has the optimum water quality, water temperature, oxygen, light and nutrient levels, that is close to where farm workers live and to markets for the fish involves a complex range of decisions. CADS_TOOL will simplify the process for many sea cage aquaculture managers.

The tool allows managers to classify a site, select the best site from several alternatives, calculate its sustainable holding density and perform a basic economic appraisal.

“We believe that CADS_TOOL will greatly improve decision making by sea cage aquaculture managers,” Dr McKinnon said. “In a rapidly expanding industry, this will be a major factor in ensuring both environmental and economic sustainability.”

Editor's Note: Original news release can be found here.

http://www.thefishsite.com/fishnews/6941/new-funding-for-strategic-investments-in-aquaculture

Tuesday, May 20, 2008

New Funding for Strategic Investments in Aquaculture

NEW BRUNSWICK - The 2008-2009 budget for the New Brunswick government will provide C$1 million in new funding for strategic investments in the agriculture and aquaculture sectors.

The new funding is the highlight of the ordinary, capital, and loans advances accounts departmental budget of $37.6 million for 2008-2009. This represents an increase of six per cent over last year's budget.

"The additional funding of C$1 million will help the agriculture and aquaculture sectors to be viable over the long term by capturing opportunities and addressing industry challenges," Agriculture and Aquaculture Minister Ronald Ouellette said.

"We will continue to be supportive of these sectors so that they can fully participate to the objective of this government of achieving self-sufficiency by 2026."

The ordinary budget of the department is C$35.6 million, which is C$2.2 million more than last year's budget.

In addition, there is an allocation of C$6.5 million under the Department of Supply and Services for capital construction projects of the department during the next year.

Through federal-provincial initiatives, capital investments in the Department of Agriculture and Aquaculture include nearly C$2 million as the provincial contribution for a new veterinary laboratory incinerator, and the construction of a new post-mortem/incinerator room in Fredericton. The total estimated cost in 2008-2009 for this project is C$3.6 million. As well, a total of C$735,000 will be invested to construct a standalone veterinary lab to enable the Province to do testing for foreign animal diseases such as avian influenza.

Additionally, the Province will invest $2.2 million in a new provincial fish health laboratory in St. George, which will place New Brunswick at the forefront of aquatic animal health science. The Province will recover C$535,000 of that amount through a partnership with the Atlantic Veterinary College for the construction and use of the new laboratory.

"These investments will help to enhance the conditions for companies in the agriculture and aquaculture sectors to be successful," Mr Ouellette said.

"This support is key to ensuring that these vital sectors continue to be important components of our provincial economy in creating a self-sufficient future for all New Brunswickers."

TheFishSite News Desk

http://www.seafoodsource.com/NST-1-50041547/Offshore-Aquaculture-in-the-Crosshairs-for-Aquarium-Panel.aspx

SeafoodSource.com
Your Global Seafood Solution

Offshore Aquaculture in the Crosshairs for Aquarium Panel

May 19, 2008 - Offshore aquaculture remains a point of concern for chefs, retailers and scientists who took part in a panel discussion at last week's Cooking for Solutions seminar at the Monterey Bay Aquarium in Monterey, Calif. The debate centered on how to deal with the demand for the big three species - shrimp, tuna and salmon.
The panel was moderated by Kristine Kidd, food editor for *Bon Appetit* magazine.

While Paul Johnson, owner of the Monterey Fish Market, said the move toward offshore aquaculture is an environmental disaster, both he and Rick Moonen, chef at of rm Seafood in Las Vegas, supported land-based recirculating aquaculture systems.

Corey Peet, the aquarium's aquaculture research manager, was quick to mention that aquaculture is here to stay. "You can't paint all aquaculture with a broad brush. There is a role aquaculture can play in the long-term environment."

Kidd mentioned the magazine's readers continue to demand recipes for salmon. "They love salmon," she said. But with the wild fisheries on the West Coast shut down, the panelists were asked whether farmed salmon was a sustainable alternative.

"Can there be sustainable farmed salmon? There isn't any real solution for farmed salmon," said Peet. "There are possibilities. Inter-trophic systems deal with waste. When you solve one problem, you create another. There are niche [salmon] producers, but again, with those you produce problems with energy. Even with boutique producers, it's unclear whether they'd get off of the red [Monterey Bay Aquarium Seafood Watch] list."

During a discussion about shrimp, the Marine Stewardship Council's Brad Ack, regional director-Americas, mentioned the wild shrimp harvests in the United States are slow to move into the sustainability arena because of a lack of demand, in addition to the significant costs associated with changing operations to allow them to be certified sustainable.

Moonen aptly summed up the discussion of what seafood to eat and what to avoid by saying, "There's a lot of stress in eating. If we're all taking a step in the right direction, we'll all feel a little better. The average consumer doesn't want to worry about it all."

http://www.sunstar.com.ph/static/pan/2008/05/20/news/city.loses.p537m.aquaculture.property.to.storm.html

SUN STAR Pangasinan

Tuesday, May 20, 2008

City loses P537M aquaculture property to storm

THE Dagupan City Government has lost about P537 million in its aquaculture industry caused by typhoon Cosme.

Cosme's strong winds pounded the city and other areas in Pangasinan Province on Saturday.

Arroyo Watch: Sun.Star blog on President Arroyo

The Pangasinan Provincial Disaster Coordinating Council (PDCC) is still waiting for reports of damages from the different towns and cities before they can come out with an estimate to damages in agriculture and aquaculture.

City Agriculturist Emma Molina said the fishpond and fish pen operators in Dagupan were prepared with nets in case floods hit the city. But everybody was dumbfounded and helpless when strong winds started beating and hammering the province, particularly Western and Central Pangasinan.

Molina said about 90 percent of the fish pens situated in 14 barangays and 60 percent of fishponds located in eight barangays were destroyed.

"The estimated damage and loss to fish pens is P349 million and P184 million from fishponds. These include the fix structures and fish stocks (marketable, fry and fingerlings)," she said.

Meanwhile, the PDCC reported that 11 persons died because of the typhoon as of Monday noon.

Provincial Information Officer Butch Velasco identified the fatalities as Lourdes Soriano and Cesar Basi of Bugallon town, George Pascua of San Fabian, Carlito Maganes of Mangaldan, Elpidio Maoile of Infanta, Leocadio Ferrer of Lingayen, Mario Quinto of Urdaneta City, and siblings Miguel, Randyl and Rodyl Poserio of Dagupan City. The name of the 11th fatality is yet to be known.

Velasco further said that about 90 percent of the houses in Infanta were damaged, while damaged houses in Lingayen and Bugallon was about 70 percent.

There was also a report received, said Velasco, that floodwaters (coming from the mountains of Benguet) was rising in Sta. Barbara town.

There was no report as of Monday afternoon of water release from the San Roque Dam in San Manuel, Pangasinan. **(LCMY/Sunnex)**

http://finfish.org/blog/aquaculture-tanks-cut-fish-waste/

Aquaculture Cuts Waste

May 16th, 2008 by **andrew**

I spoke with Ian McRobert today about his Semi Intensive Floating Tank System (SIFTS) technology. The interview includes links to videos and pictures of his waste minimising aquaculture systems.

Ian and his team are using low pressure air in very unconventional ways to generate some significant advantages, especially in promoting a clean environment for fish growth and through innovative approaches to waste handling.

This is a picture of a small scale trial of the SIFTS system in Fremantle Harbour in Western Australia. The trial is a breakthrough in that it has gained the support of the Fisheries Department, the Environmental Protection Agency and the Port Authority.

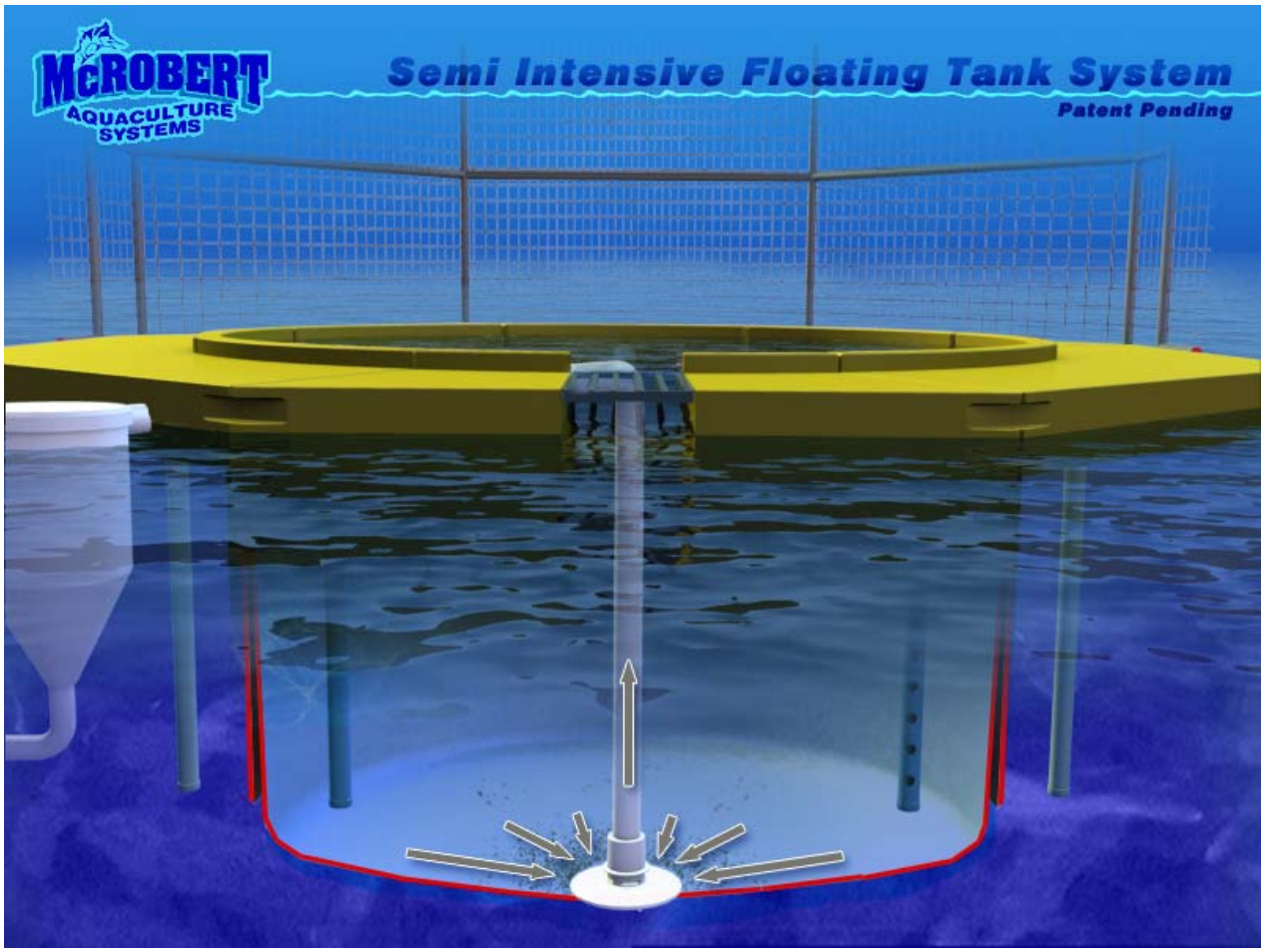
Finfish: Ian, you have been able to achieve some some impressive stocking densities with your SIFTS approach. Can you share with us your present metrics?

McRobert: Yes Andrew, we have experienced exceptional carrying capacities with our system. Our experience is that fish can be cultured at stocking densities above eighty kilos per cubic metre without the need to resort to pure oxygen or sophisticated recirculating aquaculture system (RAS) equipment.

Finfish: How do you achieve this Ian?

McRobert: Our SIFTS waste extraction system efficiently removes almost all of the solid waste - in fact up to 95% of all faecal matter is extracted quickly. Our objective is to minimise the opportunity for material to suspend or dissolve in the water column.

Finfish: Ian, you have secured environmental approval and the endorsement of the Fremantle Port Authority to trial SIFTS?



McRobert: With its waste extraction capabilities, SIFTS is able to avoid some of the biggest challenges facing aquaculture like the environmental effects caused by some cage operations conducted in nearshore areas.

Finfish: What other techniques do you use to maintain a clean growing environment for your fish, Ian?

McRobert: we use a patented liner technology that allows us to easily and thoroughly clean the tank to promote as pristine a growing environment for our fish as possible. The liner also gives us major benefits in stress free fish handling techniques. You can check this out easily by reviewing the videos on our Website.

I have included a link to the fish handling videos here.

Finfish: Thank you Ian.

McRobert: Thank you Andrew. Here are a few pictures of our system in Fremantle Harbour to allow Finfish readers to see what we are up to.

If you would like to find out more about the SIFTS approach, please visit the McRobert Aquaculture website.

http://telegraphjournal.canadaeast.com/city/article/295521

Demand for farmed fish growing

Published Wednesday May 14th, 2008

SAINT JOHN - Four hundred delegates from the Canadian aquaculture industry are meeting in the city this week to discuss innovations and the challenges they face.

Noel Chenier/Telegraph-JournalCyr Couturier, president-elect of the Aquaculture Association of Canada, says aquaculture currently represents 47 per cent of global seafood production.

Aquaculture Canada 2008, a national forum focused on developing a sustainable fish farming industry, wraps up today at the Delta Brunswick hotel.

"Ten years ago, aquaculture was about 20 per cent of global seafood production. Now it's 47 per cent, and it'll probably hit 50 per cent next year." said Cyr Couturier, president-elect of the Aquaculture Association of Canada, which hosted the event.

Couturier said worldwide production of wild seafood has remained relatively static for the past 35 years.

"But populations are growing, and demand is growing," he said.

The location was fitting for this year's conference, since Saint John is "at the hub of the East Coast aquaculture industry," Couturier said. "This general area - southwestern New Brunswick - is the most important aquaculture area in Canada, next to British Columbia."

Last year, New Brunswick's fish farming industry netted more than $250 million. More than 4,000 people work for the province's aquaculture firms, many of them crucial sources of income for rural communities.

Keynote speaker James L. Anderson, the chair of the University of Rhode Island's department of environmental and natural resource economics, spoke Tuesday about aquaculture's ability to eventually dominate the global seafood trade.

Since fish farmers don't have to depend upon government influence, or the strain of many companies fishing in the same spot, they can control their market and advertise their product with more certainty, he said.

"The nature of the harvest process undermines the possibility for long-term market planning. But if you've got a bunch of fish in the pond, you know that one year from now, you'll have a bunch of fish, so you can spend that time marketing."

Once the industry, which is still rapidly changing, has a handle on production, Anderson predicts that seafood producers could band together to create "generic" marketing, much like the dairy industry's Got Milk? campaign.

"The potential benefits are high. Whether the industry can get its act together is another question," he said.

Other keynote speakers at the event reflected the event's focus on the health benefits of fish, a factor that Couturier says will prove beneficial to the aquaculture industry.

"People are realizing that eating seafood has health benefits - wild or farmed, it doesn't matter," he said.

Dr. Bruce Holub, a health and nutritional sciences professor at the University of Guelph, spoke at the conference Monday about the cardiovascular disease-fighting properties of omega-3 fatty acids.

http://www.canada.com/saskatoonstarphoenix/news/business/story.html?id=33b2d089-cc35-40a8-a1e1-824945848f8a

Sask. canola protein to feed aquaculture

Bio-Extraction Inc. announces $10M oilseed crushing facility

Murray Lyons, The StarPhoenix
Published: Thursday, May 15, 2008

Protein extracted from Saskatchewan canola could be finding its way to fish farms around the world to replace the disappearing Peruvian anchovy.

Toronto-based Bio-Extraction Inc. (Bio-Exx) is building a $10-million low-volume, low-temperature canola crushing plant in the Corman Industrial Park to provide protein to the global aquaculture industry.

Bio-Exx received more than $11 million in backing this winter from a group of four venture capital funds to complete the facility. Bio-Exx has incorporated a Saskatchewan subsidiary, BioExx Specialty Proteins Inc. to operate and sell the output from the Saskatoon plant.

In high-volume canola crushing, which extracts oil and leaves meal as a byproduct, valuable protein is destroyed or "denatured" by the high-temperature extraction methods used, said company CEO Chris Carl. That won't happen in the BioExx plant.

"About three-quarters of all the protein in canola is a soluble protein and soluble proteins become non-soluble and denatured north of 60 Celsius," he said. "Because we keep our temperatures below 60 all the time, we really don't denature our protein."

The BioExx process, by weight, will turn about 42 per cent of the canola into oil. About 25 per cent of the seed weight becomes the specialty proteins aimed at the fish meal market, Carl said. The balance of the canola is sold as meal for livestock.

The aquaculture industry is desperate to find a replacement for protein now mostly derived by the threatened stocks of Pacific anchovy off Peru. Because of this, the value of the specialty protein aimed at aquaculture is so great that BioExx economics are not affected whether canola as a commodity is $300 a tonne or $600, the CEO said.

When open late this year, the Bio-Exx facility will be the second company producing canola meal protein for aquaculture. Can Pro Ingredients, a Saskatoon company that is using technology developed by University of Saskatchewan researchers, has started canola protein extraction at its facility in Arborfield.

The market is huge and there is room for both companies, says Carl.

"The market for fish meal today is approximately $10 billion and that's just the protein portion of the aquaculture market, which in total is an industry estimated at about $65 billion a year," he said in a phone interview. "There is lots of room for lots of people and frankly we will serve ourselves well if we bring a multitude of products to the table."

The plant being built north of Saskatoon and just south of Warman will not be high-volume, such as the large and expanding Cargill facility at Clavet, which could soon have expanded capacity to crush 1.5 million tonnes each year.

Rather, the expectation is that 40,000 tonnes of canola will be supplied to Bio-Exx each year. Nevertheless, Bio-Exx and grain-handling giant Viterra Inc. announced Wednesday Viterra will supply Bio-Exx for a period of 10 years. Viterra says its closest storage and handling terminal is just eight kilometres from the Bio-Exx facility.

Last month, the plans for the BioExx processing facility were given the green light by federal and provincial environmental agencies, while earlier in the winter BioExx announced it had hired Gord Maclennan to oversee construction of the facility and then stay on as plant manager. Maclennan is a veteran of the canola crushing industry, having recently overseen the modernization and expansion of the Bunge canola facility at Nipawin.

Carl said 16 to 20 employees will be needed to run the plant on a 365-day basis.

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