**FHS NEWSLETTER is posted on the website – go to What's New on** http://www.fisheries.org/fhs/

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## 1. MEETINGS AND WORKSHOPS

**2004 AVMA ANNUAL CONVENTION -** http://www.avma.org/convention/default.asp
Aquatic Animal Medicine Program
Educational Lecturers, Workshops and Wet Labs
July 26 - 28, 2004
Program outline:
EDUCATIONAL LECTURES
Saturday - July 24, 2004
* Updates on the US National Aquatic Animal Health Plan, Regulations and ISA and SVC Control and Eradication Programs
* Electronic Health Certification for Aquaculture
* Aquatic Animal Pharmaceutical Residue Data Bank Planning: gFARAD
* FDA-CVM: INAD and Minor Use Minor Species Drug Updates
* Viral Diseases of Koi and other Fish: Significance, Clinical Findings and Diagnostics
* AQUAVETPLAN - Australia's Aquatic Animal Diseases Emergency Plan: how does it help controlling disease?

Sunday - July 25, 2004
* The Associated Koi Clubs of America and the Koi Health Advisory Program: How to get Involved
* Emerging Issues in Marine Mammal Medicine
* Working with Marine Mammal Strandings: A Guide for the "Semi-Wet" Vet
* A Practitioner's Guide to Aquariums and Aquatic Life Support Systems
* Therapeutic Approaches to Common Parasitic and Bacterial Diseases in Fish

Monday - July 26, 2004
* The "Semi-Wet" Vet: Incorporating Fish into your Clinic or Mobile Practice
* Koi Medicine and Surgery

INTERACTIVE WORKSHOP (3-day)
Monday - July 26, 2004
Tuesday - July 27, 2004
Wednesday - July 28, 2004
Advanced Concepts in Surveillance and Biosecurity for Aquatic Animal Health

INTERACTIVE WET LABS (for Veterinarians and Veterinary Technicians)
Monday - July 26, 2004 Basic Diagnostics and Surgical Approaches to Pet Fish for Vets and Vet Techs
Tuesday - July 27, 2004 Marine Mammal Necropsy

## 2. JOBS

### GRADUATE POSITION

There will be a potential opening this fall for a masters candidate in the Center for Fish Disease Research at Oregon State University. The project will involve development of a risk assessment for the spread of whirling disease in regions with anadromous salmonids, focusing on Alaska and the Columbia River Basin as examples. Responsibilities will include analysis of databases and existing data, and collection of data when critical data gaps are identified. This is a collaborative project and will involve travel to Alaska for sample collection. Interested persons should contact Dr. Jerri Bartholomew, Department of Microbiology and Center for Fish Disease Research, Oregon State University, Corvallis, OR 97331; email: jerri.Bartholomew@oregonstate.edu; phone: 541-737-1856

### 2 POSITIONS FOR MULTI-SITE CLINICAL FIELD TRIAL FOR VACCINES AND THERAPEUTIC ASSESSMENTS

Multi-site Clinical Field Trial for Vaccines and Therapeutic Assessments - Infectious Salmon Anemia

Centre of Aquatic Health Sciences, University of Prince Edward Island, Charlottetown, Prince Edward Island, Canada

The positions involve clinical field trials with farmers and decision making on the use of vaccine, chemotherapeutants, or other health management methods dealing with Infectious Salmon Anemia Virus.

This project wishes to recruit two graduate students to enroll in an MSc program in veterinary epidemiology at the Department of Health Management, Atlantic Veterinary College to start as soon as possible (and preferably no later than September 1, 2004). The stipends offered are for 2 years of full-time study and correspond to the NSERC stipend levels "topped up" depending on qualifications.

Field-oriented student.

Qualifications: a DVM (accredited CVMA/AVMA) or equivalent, preferably with experience in aquatic veterinary medicine,
Responsibilities: development of appropriate clinical trial data collection methods and follow-up analysis and interpretation,
Supervised by Dr. Larry Hammell.

Analytically-oriented student.

Qualifications: a BSc (Honors program) or equivalent, preferably with experience in aquatic science or aquatic veterinary medicine, and with interest in and a substantial background in mathematical/statistical modelling,
Responsibilities: development of analytical tools for clinical trials, in particular on the separation of effects of treatment and clustering within site or area, and on planning and analysis of future clinical trials.
Supervised by Dr. Henrik Stryhn.

The Atlantic Veterinary College is the newest Canadian veterinary college, constituting one faculty of the University of Prince Edward Island. The AVC has a dynamic program in population health research, based primarily in the Department of Health Management, and a strong program in aquaculture based in several departments and research centres. The Centre for Aquatic Health Sciences (CAHS) is a research centre funded by the Atlantic Innovation Fund

and industry / government partners. A primary focus area of CAHS is applied epidemiologic research in aquaculture productivity and health.
In accordance with Canadian immigration requirements, all qualified candidates are encouraged to apply; however, Canadians and Permanent residents will be given priority.
Applications will be accepted until July 15, 2004, or until suitable candidates are identified. Qualified applicants should apply in writing and should include a letter of intent outlining specific interest in the position, overall qualifications and experience, and career goals, a curriculum vitae, and the names and contact information of two references to: Dr. Larry Hammell, Director of the Centre of Aquatic Health Sciences, Department of Health Management, Atlantic Veterinary College, University of Prince Edward Island, 550 University Avenue, Charlottetown, PEI C1A 4P3 Canada (tel: 902-566-0728; fax: 902-566-0823; e-mail: lhammell@upei.ca). For further information about the two programs, contact Dr. Larry Hammell (tel: 902-566-0728) or Dr. Henrik Stryhn (tel: 902-894-2847).

Executive Vice President of Programs.

**USFWS FISH HEALTH CENTER COORDINATOR POSITION, ARLINGTON, VA**
(Fishery Biologist (Mgmt))
http://jobsearch.usajobs.opm.gov/getjob.asp?JobID=22770718
JOB SUMMARY:
The Mission of the U.S. Fish & Wildlife Service: working with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.
This position is located in the Division of the National Fish Hatchery System, Branch of Fish Culture Operations.
SALARY RANGE: 72,108.00 - 93,742.00 USD per year OPEN PERIOD ENDS: Friday, July 23, 2004
SERIES & GRADE: GS-0482-13/13 POSITION INFORMATION: Full-Time Permanent
PROMOTION POTENTIAL: 13 DUTY LOCATIONS: 1 vacancy - Arlington, VA
WHO MAY BE CONSIDERED:
Applications will be accepted from US Citizens, from current and former competitive service Federal employees, and people eligible under special hiring authorities.
KEY REQUIREMENTS:
U.S. Citizenship
Time in Grade

**EXECUTIVE VICE PRESIDENT OF PROGRAMS, MYSTIC AQUARIUM & INSTITUTE FOR EXPLORATION**
The successful candidate will hold an advanced degree, a Ph.D., DVM or VMD is desired. Must be able to demonstrate working knowledge of husbandry and exhibit design appropriate for captive marine mammals, birds, fishes and invertebrates and their life support systems in order to develop species strategy and exhibit themes. Should be able to contribute to the research program under the Vice President of Research. Experience must include an understanding of International, Federal and local laws as they pertain to compliance with animal collection regulations, accreditation standards and various interactions with government agencies.

The individual in this position will serve as an active member of the senior management team and assist the CEO with the organization's strategic and master planning. Applicants must have a strong personal commitment to conservation and advancing public awareness and understanding of issues that affect the health of world populations.
Additional inquiries should be made to:
Mystic Aquarium & Institute for Exploration
Diane G. Reynolds, Director Human Resources
55 Coogan Blvd.
Mystic, CT 06355
PHONE (860)-572-5955; FAX (860)-572-5969
E-MAIL dreynolds@mysticaquarium.org
WEBSITE www.mysticaquarium.org.
EEO / AA.

### VETERINARY MEDICAL OFFICER III (AQUATIC)

State Of Hawaii
Department Of Agriculture
Halawa to Kalihi, Oahu
$4,276 to $6,086 per month (SR-28, minimum to maximum)
Application Opening Date: June 29, 2003
LAST DAY TO FILE APPLICATIONS: July 23, 2004
We currently have a veterinary medical officer position available and seek a suitable candidate to fill this position. We are seeking a person with 4 years of responsible professional veterinary experience, which includes 2 years of professional work experience involving the diagnosis and control of diseases for aquatic species. A doctor's degree in veterinary medicine from an accredited university; a valid Hawaii veterinary license or the ability to obtain one is a requirement for the successful candidate.
Responsibilities provide services to the Hawaii aquaculture industry in disease diagnosis, cure, and prevention for species cultured or under investigation and conduct applied research.
A full description of the position and how to apply can be found at http://www.ehawaiigov.org/dhrd/statejobs/file_dir/173527.HTM .
For more information and job details call (808) 587-0030 or e-mail John Corbin <jcorbin@hawaiiaquaculture.org>. For application call the Hawaii Department of Human Resources and Development (808) 587-0977 and use Quick Access Code 494.

## 3. RESOURCES AND OPPORTUNITIES

### NEW PUBLICATIONS: RISK ANALYSIS FOR AQUATIC ANIMAL MOVEMENT

Source: Asian Fish Soc
The Asia-Pacific Economic Cooperation (APEC) and the Network of Aquaculture Centres in Asia-Pacific (NACA), in partnership with the governments of Thailand and Mexico, the Food and Agriculture Organization of the United Nations (FAO) and the World Organisation for Animal Health (OIE, the Office International des Épizooties), and together with their respective member economies/governments, are pleased to announce the release of two publications as

products of APEC FWG 01/2002 project "Capacity and Awareness Building on Import Risk Analysis (IRA) for Aquatic Animals".
Both documents are available at the APEC website at
http://www.apec.org/apec/publications/all_publications/fisheries_working.html or
http://www.apec.org/apec/publications/free_downloads/2004.html
and NACA website at:
http://www.enaca.org/modules/mydownloads/singlefile.php?cid=21&lid=528 and
http://www.enaca.org/modules/mydownloads/singlefile.php?cid=21&lid=527

**Capacity and Awareness Building on Import Risk Analysis (IRA) for Aquatic Animals,**
Proceedings, May 2004
APEC#203-FS-01.2, ISBN974-92215-1-6, 221pp
Proceeding of the workshops held in Bangkok, Thailand (April 1-5, 2002) and Mazatlan, Mexico (August 12-16, 2002) for the above project. Contains 25 papers divided into 5 sections: (a) Background for Risk Analysis; (b) Risk Analysis Process; (c) Risk Analysis and the World Trade Organization: (d) Country Experiences; and (e) National Strategies for Aquatic Animal Health.

**Manual on Risk Analysis for the Safe Movement of Aquatic Animals, May 2004**
APEC# 203-FS-03.1, ISBN974-92182-4-8,74pp
This manual provides a simplified overview of the risk analysis process to assist responsible individuals to formulate national policies and develop approaches to conducting risk analyses. Hypothetical examples of various risk analysis scenarios are presented, with the primary goal of encouraging readers to consider how these scenarios might apply to their particular country situations.

## ANIMAL DRUGS / AQUATICS:

MUMS Bill: House Committee Approves
Source: APPMA e-news
Last week the House Committee on Energy and Commerce unanimously approved the Minor Use Minor Species Health Act (MUMS) without amendments. It is hoped that the bill will come before the full House of Representatives for a vote after the July 4th recess. The Senate passed the bill in March. The bill is intended to encourage the legal marketability of drugs for minor uses and minor species. Supporters are encouraged to write their Congressman to ensure that the bill is voted favorably. For more information about MUMS, check the APPMA Website at http://www.appma.org/law/minor_animal_overview.asp. APPMA Government & Regulatory Affairs is a legislative and regulatory monitoring, reporting and advocacy service provided to APPMA members. For more information, check the APPMA Website on the Products & the Law Webpage: <http://www.appma.org/law/law_overview.asp>.

## DISEASES OF TURTLES

Source: World Veterinary Association -
http://www.worldvet.org/modules.php?op=modload&name=News&file=article&sid=1915
An informative general article by Dr Saba Badar Khari

## FOLIA PARASITOLOGICA – SPECIAL ISSUE

Folia Parasitologica, an international journal for parasitology, has prepared an important collection of papers on fish parasites, based on selected contributions which were presented at the 6th International Symposium on Fish Parasites, Bloemfontein, South Africa, September 2003.
This collection (19 papers), edited by Jiri Lom, Tomas Scholz, Jo Van As and myself, will be published in a special issue entitled "Recent Results in Fish Parasitology", Folia Parasitologica, Vol. 51, number 2/3 (v + 189 pp., large-sized /A4/ format, glossy paper). The issue is scheduled to be out at the end of June 2004. I am pleased to offer you / your institution a subscription to this special issue at a complimentary reduced rate of US$ 50.00, covering surface delivery, or US$ 55.00, covering airmail delivery. (Please note that surface delivery may take between 1+ month to USA and 3+ months to South America and some other countries. Also please note the much reduced rate: a regular issue of Folia of 80 pp. is also US$ 50.00). If you wish to learn more about Folia, please visit the webpage at http://paru.cas.cz/folia
In attachment you can find the list of contents of this special issue (contents.pdf) and the order form both as editable Word document (order.doc) and PDF (order.pdf). You might wish to return the filled-in form by e-mail (PDF/Word document in attachment) as your binding order with credit card data or as your request for invoice (please mention whether PDF invoice by e-mail is acceptable). Of course, this form can be returned by fax or airmail. The special issue will be mailed after Folia receives your payment / evidence that payment has been made.
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Sincerely yours
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## 4. FISH HEALTH IN THE NEWS

### SVC SUMMARY

Spring Viremia of Carp (SVC) was confirmed in Snohomish County, Washington on June 9, 2004 in koi in a backyard pond. SVC is a viral disease mainly affecting several species of cyprinid fish.
There were a total of 115 facilities producing koi and 65 facilities producing ornamental goldfish in the US in 1997. The combined sales value for koi and goldfish from these facilities are estimated to be $10.7 million. Washington State had 2 facilities that produced koi and ornamental goldfish in 1997.

In response to the SVC finding in Washington, the fish remaining in the pond will be culled and tested for SVC. A traceback from the pet store where the fish were purchased is underway.

## NEW CARP MOVEMENT BAN ANNOUNCED - EUROPE

Source: http://www.fishupdate.com/news/fullstory.php/aid/1908
Fish Farming Today
Published on: June 30, 2004
MOVEMENT of fish to and from Packington Somers Fishery, Broadwater, Maxstoke Lane, Meriden, Nr Coventry, West Midlands has been prohibited following an outbreak of a contagious viral disease in common carp.
The outbreak of Spring Viraemia of Carp (SVC) has no implications for human health, but SVC is a serious viral disease affecting common and ornamental carp as well as a variety of other species including tench, roach, rudd, goldfish, pike, and wels catfish.
The Order was issued by Defra (Department for Environment, Food and Rural Affairs) after tests at the CEFAS Weymouth laboratory confirmed the presence of SVC, a notifiable disease under the Diseases of Fish Act 1937.
Fish Health Inspectors are investigating the source of the outbreak and tracing any fish that may have been in contact with fish at the infected site. Before the Order can be lifted, the site must test negative for SVC for three consecutive years. Alternatively, the Order could be lifted sooner if the infected site underwent an approved clearance and disinfection programme.
The clinical signs of SVC can include darkening of the skin, swollen eyes, abdominal swelling, pale gills, trailing faecal casts, and protrusion of the anus. Infected fish may be lethargic and show areas of bleeding in the gills and skin.
Anyone noting deaths of carp or any other species susceptible to SVC, should immediately contact the Centre for Environment, Fisheries and Aquaculture Science (CEFAS), Weymouth Laboratory.
Anyone who imports, keeps or retails carp or other susceptible fish should take strict precautions to prevent the spread of SVC and follow the advice set out in Defra's advisory booklet "Combating Fish Disease".
The designated area is Packington Somers Fishery, which when mapped by the Ordnance Survey encompasses the area which falls within the following grid references: SP22108200; SP22708200; SP22708290; and SP21508290 (bounded to the east, but not including, the River Blythe).
SVC is widespread in continental Europe. It is also known to occur in other parts of the world. The last major outbreak in the UK occurred in 1988 with 40 sites affected. Prior to 1988 only 4 cases had been recorded in Great Britain. This is the second case in 2004.

## TAURA SYNDROME SUMMARY:

Taura syndrome (TS) has been diagnosed in farmed Pacific white shrimp (Litopenaeus vannamei) in Cameron and Willacy counties, Texas. This is the second outbreak of TS in Texas; the first outbreak occurred in farmed shrimp along the southern and central Texas Gulf coast in 1995. The first reported occurrence of TS in the US was in Hawaii in 1994.
Taura syndrome is caused by the Taura syndrome virus (TSV) and has caused outbreaks in farmed shrimp in the Americas, Indonesia and China since first being described in Ecuador in 1992.
The US ranks 6th in world production of shrimp and prawns. Texas had 36 shrimp farms in 2002 that produced approximately 9 million pounds of shrimp.

## 'UGLY LOBSTER' DISEASE CREEPING NORTH

Source: http://www.nationalfisherman.com/news/index.asp
Associated Press
Publication date: 2004-05-27
BOSTON (AP) - A baffling disease that makes lobsters ugly, but not inedible, has crept northward from the Buzzards Bay hotspot where it's afflicted lobsters for several years.
The numbers of infected lobsters are far too tiny to cause panic, but researchers and lobstermen are weary of the disease's progress. The disease doesn't affect the meat, but a lobster with a corroded, blackened shell is a tough sell.
... In 1998, diseased lobsters began filling traps in the Buzzards Bay area, off the coast of southeastern Massachusetts. Almost a quarter of all lobsters sampled by the state in the bay that year had the disease, known as shell burn.
In the years since, the diseased lobsters were found in lesser numbers in Cape Cod Bay and Boston Harbor. Last year, according to preliminary numbers, 3 percent of lobsters caught off Salem and Cape Ann had the disease - the first time since sampling began there in 2000 that any infected lobsters were recorded.
"We've seen, year by year, a slow, steady progression northward," said Bob Glenn, a biologist leading the coastal lobster studies at the state Division of Marine Fisheries.
... He said the disease is worth watching because of its mobility and unexplained cause.
... The state's lobster catch was worth $56.7 million in 2002, the most recent year for which statistics were available.
The shell disease hasn't been tied to any mass die-offs, and lobsters seem to survive it reasonably well, though perhaps in a weakened state, Glenn said.
The disease is caused by the chitinolytic bacteria that eats chitin, a cellulose-like substance in the shells. The disease has been around forever, but the strain that's hit Buzzards Bay could be new and more virulent, Glenn said.
... The disease has yet to significantly affect Maine - where fishery officials recorded 44 cases of shell disease among 130,000 lobsters sampled in 2003 - or New Hampshire, where the disease turned up in 43 of 14,308 lobsters.
"Right now, I don't think it's anything to be concerned about," Heaphy said. "We're keeping our fingers crossed."

## SALMON PARASITE STILL SPREADING QUESTIONS

Herald and News: Klamath Falls, Oregon
http://www.heraldandnews.com/articles/2004/06/24/news/top_stories/top4.txt
Thursday, June 24, 2004 4:08 PM PDT
By DYLAN DARLING
Scientists scoured 87 miles of the Klamath River last week for salmon fingerlings killed by a microscopic parasite.
What they found was both unsettling, and uncertain.
"Anyone on the river will tell you that there are fish dying every day," said Ron Reed, biologist for the Karuk Indian Tribe.
Ceratomyxa shasta, or C shasta, has killed high percentages of salmon fingerlings found in traps along the river since early May, but it's hard to figure out how those numbers relate to the amount of fish that survived in the river, and to what is normal, officials said.

Presence of the parasite raises concern for the 5 million salmon fingerlings released from the Iron Gate fish hatchery from late may to early June.
Reports show 269 dead salmon fingerlings have been recovered from the Klamath River. But biologists say there's no way to extrapolate what percentage of the fish in the entire river system may have succumbed to the parasite.
"Because this is the first year of this kind of survey it is hard to say if it is worse this year or different," said John Engbring, director of the U.S. Fish and Wildlife Service's California and Nevada Operations office in Sacramento.
Divers observed that C shasta has made its way downriver, affecting clumps of fingerlings in the lower part of the river's middle reach.
The survey data were released at a meeting of the Klamath Fisheries Task Force, a group of federal and state officials, tribes and stakeholders that has meet three times a year since 1986.
The meeting, being held in Klamath Falls at the Shilo Inn, started Wednesday and ends today.
The C shasta parasite is common to main stem of the Klamath River, from the Pacific Ocean to the Williamson River. But there is no data on how many salmon it affects per year.
"I don't think any of us know how this would compare to other years," Engbring said. "This is really a baseline."
The parasite spends part of its life inside tiny, 3-millimeter long worms that float in the river's water, and the other part inside salmonid fish, which include, salmon, steelhead and trout. **Note: I have been misquoted here, as we all know, the polychaete is the alternate host for the parasite**
While inside the fish, the parasites eat away at the intestines, multiplying and causing a lethal infection. Fish with C shasta usually die.
"Once they get it, they are the living dead," Manji said.
Although the percentage of fish being found dead from C shasta in the four traps along the stretch of river is high - up to 95 percent - the number of fish caught in the traps is relatively low, said Neil Manji, fisheries biologist for California Department of Fish and Game.
"You don't even know how many fish have gone by," he said.
So trying to figure out how many fish are affected becomes a percentage game, he said.
To try to get a better idea of how the parasite is affecting fish in the river, scientists blitzed the river last Thursday and Friday.
Fourteen scientists from federal and state agencies, as well as American Indian tribes and private groups, fanned out from Happy Camp. Using kayaks, jet boats and rafts, as well as snorkels and underwater video cameras, they looked for signs of a fish dieoff on the stretch of river between Klamath and Big Bar.
Along with C shasta, another parasite called parvicapsula, which attacks a fish's kidneys, has been found in Klamath River salmon.
Manji said the parasite is similar to C shasta, and often fish get affected by both, so it is hard to tell which of the parasites caused a fish's death.
The parasites have been infecting this year's hatch, which emerged from spawning beds, in and out of the Iron Gate hatchery, in December and January, which are now about the size of a human's pinky finger.
People along the river are not the only ones concerned about the parasites.
Dan Keppen, executive director of the Klamath Water Users Association, said Klamath Reclamation Project irrigators are worried that blame for the spread of the parasite could be put on the Project if "catastrophe theorists go wild."

He said more research need to be done about the parasites.
"We need to know how this relates to past years," Keppen said.

## FISH STORY FROM WICHITA EAGLE NEWSPAPER – A NEW SYNDROME?

This was a pretty interesting story from The Sunday Wichita Eagle Newspaper a couple of weeks ago. Was in a housing development around 119th st. South and Maple. Anyhow a resident in the area saw a ball bouncing around kind of strange like in the developments pond and when he went to investigate, it was a flathead catfish who had obviously tried to swallow a child's basketball which became stuck in its mouth. The fish was totally exhausted from trying to dive but unable to because the ball would always bring him back up to the surface. The resident tried numerous times to get the ball out but was unsuccessful. He finally had his wife cut the ball in order to deflate the ball and release the catfish.

## CHLORAMPHENICOL IN IMPORTED CRABMEAT - USA (LOUISIANA): ALERT

http://www.fda.gov/bbs/topics/answers/2004/ANS01297.html

FDA seizes adulterated crabmeat in Louisiana containing chloramphenicol At the request of the Food and Drug Administration (FDA), USA marshals seized approximately 1144 cases of Bernard's brand frozen crab meat, while it was being held for sale at Southern Cold Storage Company, Baton Rouge, LA, USA, on 2 Jul 2004, because it was adulterated with an unapproved food additive, chloramphenicol. The marshals seized approximately 304 cases of pasteurized special white crab meat, 200 cases of pasteurized special claw crab meat, and 640 cases of pasteurized jumbo lump crab meat. Imported from China, the frozen crab meat has an estimated value of USD 86 944.

In accordance with the Federal Food, Drug, and Cosmetic Act, food products that contain chloramphenicol are considered adulterated, and are not permitted to be sold in, or imported into, the United States.
Chloramphenicol is a broad-spectrum antibiotic drug used to treat life- threatening infections in humans, usually when other alternatives are not available. The use of this antibiotic is limited because of its potentially life-threatening side-effect: idiosyncratic aplastic anemia. For the very small percentage of the population susceptible to this side-effect, exposure to chloramphenicol could be serious, or, even life-threatening. Because of the current uncertainty regarding the dose-response relationship between chloramphenicol ingestion and aplastic anemia, it is not possible to define a safe level for the presence of this antibiotic in food products.
In Jun 2002 (see below), FDA announced increased sampling of imported seafood for the presence of chloramphenicol. This action was taken because some states, and other countries, had detected low levels of chloramphenicol in imported shrimp and crayfish. The agency will continue to detain or seize any food imports that contain chloramphenicol to ensure that this product is not released for human or animal consumption in the United States.

## AQUA BOUNTY & RECALCINE FARMACEUTICA IN AQUATIC DRUG DEVELOPMENT DEAL

7/7/2004
http://www.seafoodintelligence.com/EditModule.aspx?tabid=100&mid=495&def=News%20Article%20View&ItemId=648
AquaBounty, a leading North American developer of aquatic biotechnology products and the largest privately-held pharmaceutical company in South America will cooperate in the discovery, development and commercialization of new veterinary vaccines, antimicrobial agents and diagnostic products targeting shrimp and salmon diseases characteristic of the southern hemisphere.
In a wide-ranging agreement that leverages the companies' complementary strengths, U.S.-Canadian-based Aqua Bounty Technologies (ABT) and Recalcine Farmaceutica (CFR) of Santiago, Chile will develop, manufacture and market a range of aquatic veterinary products targeted to infective species and strains specific to South America. The companies also agreed to create several regional diagnostic centers in shrimp and salmon farming areas to bring powerful new quantitative PCR and molecular probe techniques to the South American market.
AquaBounty has also been able to produce and rear transgenic farmed salmon in its Canadian facility of Prince Edwards Island (PEI) and is awaiting FDA approval for its commercialisation in the US.
"South America has embraced the Blue Revolution," said Alejandro Weinstein, the chief executive officer of CFR. "As aquaculture producers increase their volume, acquire new species and expand into new locations, effective biosecurity and best health management practices will be essential for long term stability in the industry. The strategic alliance between Recalcine and Aqua Bounty will provide farmers with the tools they need through the entire production process to detect, prevent and ultimately to cure the diseases that threaten sustainable production."
Under the agreement, ABT will develop or improve vaccines for up to five significant salmon pathogens and develop an antifungal treatment for salmon eggs and fry to be distributed by CFR. The pharmaceutical company will also introduce ABT's shrimp diagnostic kits, currently available in Asia, to the South American market. The kits are capable of detecting a single strand of pathogenic DNA in shrimp and will, under the agreement, be expanded in application to

detect disease in salmon as well. The agreement also allows CFR to market ABT's shrimp immunostimulant feed additive, currently available only in Mexico, to South American markets to be determined.
CFR will finance the development costs, contribute milestone payments to fund field trials and market the full suite of shrimp and salmon health products through its established sales network.