



Electronic Newsletter

Fish Health Section/Asian Fisheries Society

Issue No. 6 August-September 2004

Sixth Symposium on Diseases in Asian Aquaculture (DAA VI)



Please mark your calendars!!!

DAA VI in Colombo, Sri Lanka on 25-28 October 2005.

Detailed announcement will be released through a website exclusively dedicated for DAAVI to be launched in September 2004.

Member Updates

Congratulations...new posts...good luck...well wishes...

- **Dr. Celia Lavilla-Torres** - President of Visayas Chapter of the Philippine Society for Microbiology
- **Dr. Darnas Dana** - newly appointed Director of Fish Health and Environment, Directorate of Aquaculture, Indonesia's Ministry of Marine Affairs and Fisheries
- **Dr. Naoki Itoh** - completion of his PhD studies and new post starting September 2004 as post-doctoral research fellow under Dr. Jerome La Peyre at Department of Veterinary Science, Louisiana State University. Naoki san will work on host and parasite interaction of *Perkinsus marinus*.
- **Dr. Elen Catap** - on short-term Fulbright post-doctoral fellowship (until March 2005) at University of

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

Dr. Somkiat Kanchanakhan, on a short term assignment at the Office of Agricultural Affairs at the Royal Thai Embassy in Washington DC for 3 months (1 Sep - 29 November 2004)

- **Dr. Melba B. Reantaso** is joining the FAO service beginning 14 September 2004 and will be based in Rome, Italy.

Obituaries

Dr. Hisao Philip Arai. Born Los Angeles, California, United States of America, October 8, 1926. Died Royal Jubilee Hospital, Victoria, British Columbia, Canada, August 21st, 2004 after a brief illness. Ph.D. University of California, Los Angeles 1960, NIH Post-Doctoral Fellow University of British Columbia 1960-1961. Taught Mt. St. Mary's College, Los Angeles 1958-1959, Illinois State Normal University 1961-1963, and University of Calgary 1963-1994. Robert Arnold Wardle Invitational Lecture 1993 and Honorary Member 1998 Canadian Society of Zoologists. Canadian Council on Animal Care 1978-1981, 1989-1999, President 1979-1980. Senior Volunteer Investigator Pacific Biological Station, Nanaimo 1994-2004. Survived by his wife Mary, sons Bruce (and his wife Tracey), Gordon and Hugh, and by three grandchildren Jerrel, Maggie and Wesley. A memorial service will be held Tuesday, September 7th at 2:30 PM Sands Funeral Chapel, 1 Newcastle Avenue, Nanaimo, British Columbia followed by a reception. The family gratefully requests that, in lieu of flowers, donations be made to the H. P. Arai Scholarship Fund, Development Office, Wilfrid Laurier University, 75 University West, Waterloo, Ontario, Canada N2L 3C5.

For those who have the opportunity to visit or work at Canada's Department of Fisheries and Oceans' Pacific Biological Station in Nanaimo, Canada

Dr. John Fyer, a pioneering and world renowned professor of fish health at the Department of Microbiology, Oregon State University and founding member of the Fish Health Section of the American Fisheries Society passed away last 3 September 2004. Dr Fryer has taught the Fish Pathology course at OSU for many years. This course was one of the original courses on fish health attended by fish health researchers in Asia. A memorial lecture and reception in being planned at OSU.

Project News

Permanent Advisory Network for Diseases in Aquaculture (PANDA) – a permanent network of experts on infectious diseases of aquaculture species for providing scientific advice on EU policy. More information at PANDA's website <http://www.europanda.net/>



The PANDA consortium consists of experts/institutions from UK, Denmark, France, Spain, Norway, Netherlands, Belgium, and Ireland. The scientific work packages of PANDA are (a) risk analysis, (b) epidemiology, (c) diagnostics methods, (d) environmentally safe disease control, (e) training needs and opportunities.

FAO provides technical assistance to Latvia through a Technical Cooperation Project entitled “**Improving aquatic animal health and quality and safety of aquatic products**”. The aim of the project is to establish better aquatic animal health management strategies and also to ensure compliance to human health and safety standards of internationally traded aquatic products, to assist the government to improve trading requirements following their new entrance to the European Community.

Abalone Health Interest Group

Contact: E-mail : Judith.Handlinger@dpiwe.tas.gov.au

Upcoming Events (with relevant sessions on aquatic animal health)

13th International Conference on Aquatic Invasive Species, September 19-23, 2004, Lynch West County Hotel, Ennis, County Clare, Ireland. Hosted by the Institute of Technology, Sligo, this annual four-day conference is widely considered the most comprehensive international forum for the review of accumulated scientific knowledge on the impacts of aquatic invasive species, presentation of the latest field research and data, new technologies or advancements in control and mitigation, discussion of policy and approaches to effective public education and outreach initiatives to prevent new

introductions. Suggested topic areas include: (a) Policy, legislation and monitoring; (b) Ecological and ecosystem impacts; (c) Socio-economic impacts; (d) information exchange; (e) education and outreach initiatives; (f) vectors of introduction; (g) control technologies for industrial and non-industrial settings. Abstract deadline: before 31 December 2003 Early Registration deadline: 31 May 2004. Information Contact: Elizabeth Muckle-Jeffs Conference Administrator 1027 Pembroke Street, East Suite 200 Pembroke ON K8A 3M4 Canada North America: 1-800-868-8776 International: 613-732-3386 Fax: 613-732-3386 E-mail: profedge@renc.igs.net Website: www.aquatic-invasive-species-conference.org

6th International Symposium for Viruses of Lower Vertebrates (The 6th ISVLV)

This is the 6th scientific gathering of ISVLV. Previous meetings were held in Seattle, USA (2002), Weymouth, England (1998), Jouy-en-Josas, France (1995), Corvallis, USA (1991) and Munich, Germany (1988). The main theme of 6th ISVLV is to bridge accumulating insights on molecular virology into applied and environmental virology of lower vertebrates. Scientists interested in viruses of amphibians, reptiles and fish are cordially invited. The 2-3 day scientific program will include sessions on pathogenesis, immunity, structural biology, molecular biology, virus evolution and emerging viruses of lower vertebrates. 20-22 September 2004 Hakodate Kokusai Hotel in Hakodate, Hokkaido, Japan Contact Site: Co-organizer Assoc. Prof. Nishizawa, T. Graduate School of Fisheries Sciences, Hokkaido University, Hakodate, 041-8611, Japan; E-mail: jjnishi@fish.hokudai.ac.jp



Regional Workshop on Preparedness and Response to Aquatic Animal Health Emergencies, Jakarta, Indonesia, 21-23 September 2004.

The Workshop will review the regional experiences in responding to disease emergencies, including the work accomplished through an FAO Technical Cooperation Programme project in Indonesia aimed at providing technical assistance to improve national capacity to respond to the ongoing carp disease epizootic. The Workshop is intended to assist Indonesia and countries of the Asian region in: (i) identifying actions to reduce the impacts of KHV on aquaculture and small-scale fisheries; and (ii) strengthening preparedness and response to serious aquatic animal disease emergencies. Working groups will tackle the following issues: (a) Risk analysis and prevention strategies; (b) Early warning, early reaction and contingency planning; (c) Control and eradication procedures/campaign;

and (d) Organizational arrangements, support plans, training and capacity building. More details at <http://www.enaca.org/modules/news/article.php?storyid=297>



Australasian Aquaculture 2004: Profiting from Sustainability, September 26-29, 2004, Sydney Convention Centre – Sydney, Australia

This is first of a series of national aquaculture conferences to be held biennially near the major aquaculture producing areas of Australia by Asian-Pacific Chapter of WAS, National Aquaculture Council of Australia and Tasmania Aquaculture Council. The event is sponsored by Australia's Fisheries Research and Development Corporation, Department of Agriculture, Fisheries and Forestry and hosted by NSW Fisheries. Meeting Website: www.australian-aquacultureportal.com; www.was.org; www.fisheries.nsw.gov.au

Specialist Workshop on Abalone Health: Diagnosis & Control.

A specialist abalone health workshop aimed primarily to health service providers for the abalone industries will be held in Sydney on September 30 and October 1, immediately following the 'Australasian Aquaculture 2004' conference and trade show. This Workshop is a component of the current FRDC abalone disease survey project (FRDC 2002/201), which aims not only to survey the diseases in Australia's farmed and wild abalone, but to expand the diagnostic and related health expertise available to these industries. The purpose of the Workshop is to review all the factors affecting abalone health, including but not limited to the disease of abalone found in Australia during the current project, as a background for developing a comprehensive diagnostic capability for this industry. This may well be the most comprehensive abalone health session held anywhere and is certainly a first for Australia. As well as a review of all known abalone diseases, invited speakers including at least 2 international speakers will review topics ranging from functional anatomy and environmental requirements of abalone, bacterial identification, stress physiology, and general abalone responses to disease and other insults. Final group discussions will consider ways to assess the significance of findings, from understanding the basic science to the farm profit level. Although the primary target audience is health service providers, the comprehensive

review would be valuable to others within these industries.

Those interested in attending or contributing should contact Dr Judith Handlinger (Phone 03 63365389, fax 03 63443085 or by Email to Judith.Handlinger@dpiwe.tas.gov.au) for more details. Registration, including a Workshop Dinner will be approximately A \$200.

October 2004



Venue: Temasek LifeSciences Laboratory, Auditorium 1 Research Link, National University of Singapore

The inaugural conference in Asia for the world's leading aquaculture practitioners, technologies, solutions and products. Topics will include Aquaculture Opportunities in South-East Asia, Food Security and Safety, Vaccines and Disease Control, Nutritional Feeds and Feeding Practice, Biotechnologies and Genetics. Meet the market leaders in marine aquaculture: Feeds, Vaccines, Biotechnologies, Genetics, and learn about best practices in Broodstock Selection, Traceability and Food Safety and Quality Assurance in Seafood Products. Discover the emerging technologies of high-tech aquaculture, its development and applications, as well as the opportunity to create value for your investments. In conjunction with Global Entrepolis @ 2004 in Singapore, delegates will be able to meet and network with professionals from the 20 other events such as Global Chinese Business Conference, Chinese Technopreneur Forum, Japanese Overseas Business Conference, Indian IT Forum, TechVenture Asia 2004 with total expected turnout of more than 10,000 participants.

For complete conference programme and more information, visit: <http://www.aquacultureconference.com>



Aquaculture Europe '04.

Organised by the European Aquaculture Society (EAS) in cooperation with the European Society of Marine Biotechnology (ESMB) and the European Association of Fish Pathologists (EAFP).

Will discuss policy issues, genetics and reproduction, larvae and juveniles, ongrowing, rapid detection methods, vaccines, 'bio' health management, consumer satisfaction and health, safety and traceability, bioactive products through aquaculture. 20-23 October 2004, Barcelona, Spain Conference Website: www.easonline.org; <http://www.easonline.org/agenda/en/AquaEuro2004/default.asp>

ASEM-EU Research Dialogue: Action Plan for Aquaculture Animal Health Improvement, October 18-20, 2004, back to back with European Aquaculture Society Meeting, Barcelona , Spain.

The purpose of the workshop is to bring together experts from the different stakeholder groups (academics, industry, policy) to formulate common strategies around selected topics (e.g. diagnostics, intercalibration and certification, epidemiology, health management, vaccine development, etc.). The workshop proceedings will guide EU priorities for research funding.

An e-mail discussion list has been launched in preparation for the workshop. A number of thematic areas have been identified and invited participants are invited to submit your suggestions and comments on specific topics or areas of research that you believe require priority funding. The forum will be closed on the 15th of September and the output will be used as the starting point for the workshop discussions.

New topics or reactions on ongoing discussion can be posted via an e-mail to: asem@ugent.be <<mailto:asem@ugent.be>> with copy to v.alday-sanz@inve.be <<mailto:v.alday-sanz@inve.be>>. The discussion can be followed via the site: <<http://zephyr.ugent.be/ASEM/>> click Forums, then workshop 3: Disease, health treatment and husbandry.

The identified thematic areas are: (1)Diagnostics, intercalibration and certification of labs: e.g., training, development of new methods, etc., (2) Epidemiology, health management and extension: e.g., surveillance, training, networking, etc., (3) Molecular epidemiology and disease mechanisms: e.g., etiological agents, host response, etc., (4)Vaccine development and new treatments: e.g., immunostimulants, antiviral, etc., (5) Other topics agreed by the workshop participants. In addition country representatives are requested to gather information on the following: (a) Research centers and institutions dealing with aquatic animal diseases/health in your country; (b) -Main areas of research during the last five years; (c) National funding agencies; (d) Who disseminates research, how does it reach the farmers, how can it be improved; (e) Industry needs and priorities; and (f) Areas of research that need further attention.

Aquaculture Canada 2004



21st Annual Meeting of the Aquaculture Association of Canada
Theme: To your Health! Farming Freshwater and the Seas
October 17-20, 2004
Fairmont Le Château Frontenac
Quebec City, Quebec

<http://www.aquacultureassociation.ca/AC04/welcome.html>

November 2004

Third Meeting of NACA’s Advisory Group on Aquatic Animal Health (AGM-3), 24-26 November

2004, NACA Headquarters, Bangkok, Thailand. The third meeting of the Regional Advisory Group on Aquatic Animal Health will be held on 23-25 November 2004, at the NACA Secretariat in Bangkok, Thailand. The Advisory Group was established by the Governing Council of the Network of Aquaculture Centres (NACA) to provide advice to NACA members in the Asia-Pacific region on aquatic animal health management, through the following activities: (a) Review and evaluation of regional aquatic animal disease reporting; (b) Review and evaluation of implementation of the *Technical Guidelines*; (c) Advise on identification and designation of regional aquatic animal health resources, including specialist advisers, Regional Reference Laboratories and Resource Centres; (e) Revision of the *Technical Guidelines, Manual of Procedures* and *Asia Diagnostic Guide for Aquatic Animal Diseases* as required; and (f) Development of procedures for advising on dealing with aquatic animal health emergencies. Members of the Advisory Group include invited aquatic animal disease experts, World Animal Health Organisation (OIE), Food and Agricultural Organisation of the United Nations (FAO) and collaborating regional organizations. More details from mohan@enaca.org.

International Conference on Aquaculture Production and Marketing of Shrimp and Finfish and Bangladesh Seafood Expo 2004.

28-29 November 2004, Pan Pacific Conargaon Hotel, Dhaka, Bangladesh

More information from:

Email: infish@tm.net.my or infish@po.jaring.my

Website: www.infofish.org

7th Asian Fisheries Forum set for Penang, Malaysia.

With the theme “New Dimensions and Challenges in Asian Fisheries in the 21st Century”, the 7th Asian Fisheries Forum will be held at the Hotel Equatorial in Penang, Malaysia from 30 November to 4 December 2004. Special symposia on “Advances in Shrimp Biotechnology”, Technology Needs and Prospects for Asian Aquaculture: Participation of the Poor” and “Biotechnology for Growth and reproduction in Fish” are included. For more details, contact the 7th AFF Secretariat at 7aff2004@usm.my

Advances in Shrimp Biotechnology, in conjunction with the upcoming 7th Asian Fisheries Forum, Asian Fisheries Society, Penang, Malaysia, 30 November to 4 December 2004. This is a follow-up workshop to the one held at the 5th Asian Fisheries Forum that was held in Chiangmai, Thailand in 1998. In the intervening 6 years

since the 5th Forum, much has happened in this field and 2004 will be an excellent occasion for another review. Details can be obtained from Prof. Tim Flegel at e-mail: sctwf@mahidol.ac.th.

February 2005



Workshop on Antibiotic Resistance in Asian Aquaculture Environments

24-25 February 2005
Chiangmai, Thailand

An EU funded project on Hazard Analysis of Antimicrobial Resistance with Asian Aquacultural Environments. The workshop is organized by AAHRI in cooperation with FAO, NACA, and SEAFDEC. Deadline for expression of interest – 30 September 2005. More details from Dr Supranee Chinabut at supranee@fisheries.go.th
<http://www.medinfo.dist.unige.it/Asiassist/workshop/>
http://www.medinfo.dist.unige.it/Asiassist/workshop/Workshop_Leaflet.pdf

August 2005

Fifth International Symposium on Monogeneans, 8-12 August 2005, Zhongshan University, Guangzhou China. First circular announcement at http://www.diplectanum.dsl.pipex.com/ism5/ism5_first_circular.pdf; E-mail: china.ism5@zsu.edu.cn; ism5_china@yahoo.com.cn

October 2005



From Science to Solutions

20th meeting of the World Association for the Advancement of Veterinary Parasitology (WAAVP), Christchurch, New Zealand, October 16th to 20th 2005.

The program includes 7 to 9 plenary papers as well as a large number of contributed papers in up to 5 concurrent sessions. Many of these will be organised into workshops and symposia. A Plenary talk on the topic of 'Management of Parasitic Diseases in Aquaculture' will be delivered by MB Reantaso, review paper co-authored with JR Arthur, K Ogawa, R Adlard and RP Subasinghe. First announcement details can be found at:

<http://www.waavp2005.org.nz/WAAVP%20first%20announcement1.pdf>



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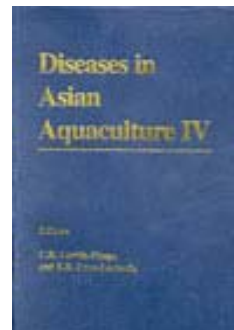
August 2006

ISVEE 11, Cairns, Australia. 11th Triennial Meeting of the International Society for Veterinary Epidemiology and Economics. Details not yet available.

XXXVIIth Annual Meeting of the Society for Invertebrate Pathology; International Conference on *Bacillus thuringiensis*. August 1-6, 2006 Helsinki, Finland Contact: h.hokkanen@kolumbus.fi

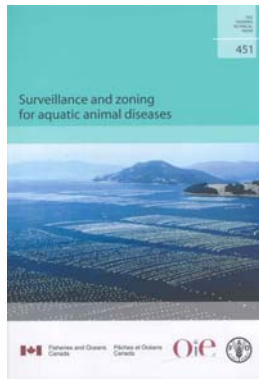
11th International Congress of Parasitology (ICOPA XI). 6-11 August 2006 Scotland, UK. Website: <http://www.icopa-xi.org/>

Publications



Diseases in Asian Aquaculture IV. 2002. FHS/AFS. C.R. Lavilla-Torres and E. Lacierda-Cruz (eds).

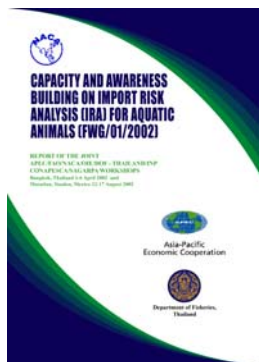
Contains 43 peer-reviewed original research and review papers, dealing with the diseases and health management of aquatic animals, with emphasis on the Asia-Pacific Region, presented during the Fourth Symposium on Diseases in Asian Aquaculture (DAA IV), Cebu,, Philippines, November 1999. Details at <http://afs-fhs.seafdec.org.ph>. **Please support our Society by purchasing the above publication.**



Surveillance and Zoning for Aquatic Animal Diseases.

Subasinghe, R.P.;
McGladdery, S.E.;
Hill, B.J. (eds.). FAO
Fisheries Technical
Paper. No. 451. Rome,
FAO. 2004. 73p.

This document contains the recommendations and conclusions of an **Expert Consultation on 'Surveillance and Zoning for Aquatic Animal Diseases'** jointly organized by FAO, the Federal Department of Fisheries and Oceans Canada (DFO-Canada) and OIE held in October 2002 at the FAO Headquarters in Rome, Italy. The objective of the consultation was to determine what surveillance options can best support scientifically valid zonation frameworks. Contact: Rohana.Subasinghe@fao.org



Capacity and Awareness Building on Import Risk Analysis (IRA) for Aquatic Animals. 2004.

J.R. Arthur and M.G.
Bondad-Reantaso. (eds.).

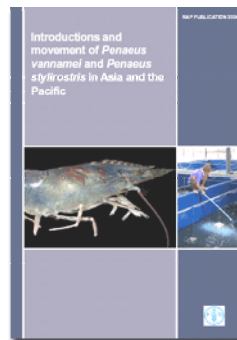
Proceedings of the Workshops held 1-6 April 2002 in Bangkok, Thailand and 12-17 August 2002 in Mazatlan, Mexico, 192 pp. APEC FWG 01/2002, NACA, Bangkok. Contains 25 papers divided into 5 sections: (a) Background for Risk Analysis; (b) Risk Analysis Process; (c) Risk Analysis and the World Trade Organization; (d) Country Experiences; and (e) National Strategies for Aquatic Animal Health. Available at: <http://www.enaca.org/modules/mydownloads/visit.php?cid=21&lid=528> and http://www.apecsec.org.sg/apec/publications/all_publication/s/fisheries_working.html



Manual on Risk Analysis for the Safe Movement of Aquatic Animals (APEC FWG 01/2002)

J.R. Arthur,
M.G. Bondad-Reantaso, F.C.
Baldock, C.J. Rodgers
and B.F. Edgerton.

This Manual was prepared as an output of the Asia-Pacific Economic Cooperation (APEC) Fisheries Working Group (FWG) project APEC FWG 01/2002 "Capacity and Awareness Building on Import Risk Analysis (IRA) for Aquatic Animals. The initial sections of the manual provide information and guidance on how risk analysis facilitates trade while protecting national biological, social and economic resources; a brief review of pertinent international agreements and responsibilities; and a discussion of the issues surrounding the development of national policy and legislation. Following sections then provide a general overview of the process and the mechanisms needed (expertise, procedures, scoping an analysis, etc.) to begin a risk analysis. The individual components (risk communication, hazard identification, risk assessment and risk management) are then discussed in detail. The remaining sections address some other important considerations, such as the use of "in-house" vs more extensive risk analysis, the importance of good scientific review, qualitative and quantitative approaches to risk analysis, the precautionary approach, developing countries and risk analysis, and the role of politics and science in the risk analysis process. 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. Available at: http://www.apecsec.org.sg/apec/publications/all_publication/s/fisheries_working.html



Briggs M., S. Funge-Smith,
R. Subasinghe and M.
Phillips. 2004. **The introduction of *Penaeus vannamei* and *P. stylirostris* into the Asia-Pacific Region.** Food and Agriculture Organization of the United Nations, Regional Office for Asia and the Pacific, Bangkok. RAP Publication 2004/10.99p.

Available at:

http://www.enaca.org/shrimp/publications/Introduction_of_Vannamei_to_Asia.pdf



FAO. 2003. Health management and biosecurity maintenance in white shrimp (*Penaeus vannamei*) hatcheries in Latin America. FAO Fisheries Technical Paper. No. 450. Rome, FAO. 2003. 58 p.

This document provides technical guidance on how to improve the health and quality of postlarvae produced in hatcheries through improved facility maintenance and husbandry, broodstock maturation, larval rearing, feeding, water quality management, biosecurity and health management, using interventions at different points of the hatchery production process. The document also provides valuable information on how Standardised Operating Procedures (SOPs) and Hazard Analysis Critical Control Point (HACCP) type interventions can be applied during hatchery production of *P. vannamei* postlarvae. This document is expected to facilitate the efforts of hatchery operators and managers to produce quality, disease free, healthy *P. vannamei* postlarvae, thus improving overall production and the sustainability of white shrimp aquaculture. Also available in Spanish version. Contact: Rohana.Subasinghe@fao.org

OIE Aquatic Animal Health Code, 7th Edition, 2004, http://www.oie.int/eng/normes/fcode/A_00003.htm

Australian Aquatic Animal Disease Identification Field Guide

E-mail: alistair.herfort@daff.gov.au

Web page: <http://www.daff.gov.au/aquaticanimalhealth>

Disease cards for a number of important diseases (KHV, Akoya pearl oyster disease and grouper iridoviral disease) are now available at NACA website: <http://www.enaca.org/modules/mydownloads/viewcat.php?id=23>

Past Events News

International Symposium on Koi Herpesvirus Disease, 13 March 2004, Yokohama, Japan. Organised by the Fisheries Research Agency (FRA) of Japan, the

Southeast Asian Fisheries Development Center (SEAFDEC), the Ministry of Agriculture, Forestry and Fisheries (MAFF) of Japan and the World Organization for Animal Health (OIE) in Yokohama, Japan, the forum was participated in by 320 scientists from Japan, SEAFDEC member countries, United States, East Asia, Israel and Europe to exchange on the latest information on the disease and its prevention and control. The meeting highlighted the significance of this emerging disease, KHVD, in Asia. Baseline information on the disease outbreaks in Indonesia and Japan were reported. Research data on recent and ongoing studies conducted in USA, Israel, Japan and Europe were presented. All these information is essential in planning for studies on KHV under the Government of Japan-Trust Fund Fish Disease Project that will eventually redound to the prevention of the transboundary movement of KHVD in Southeast Asia.

Building capacity to combat impacts of invasive alien species and associated trans-boundary pathogens, 12-16 July 2004, Penang, Malaysia



A regional workshop jointly organized by NACA, FAO, the World Fish Center and ASEAN and supported by US Department of State, the workshop was participated by 70 officials from Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam, USA and representatives from AIT, APEC, ASEAN Secretariat, AusVet Australia, CABI International, Deakin University, FAO, IUCN, MRC, Multimedia Asia, NACA, OIE, Philrice, SakhNIRO- Russia, SEAFDEC-AQD, Universiti Putra Malaysia, and the World Fish Center successfully participated in this pioneering initiative to better understand the relationship between aquatic invasive alien species (IAS) and associated trans-boundary pathogens in ASEAN countries. The Workshop statement can be found at <http://www.enaca.org/modules/news/article.php?storyid=286>



A rare and pleasant reunion of all FHS ExeCom Chairpersons during the invasives meeting in Penang.

Standing: Dr. Leong Tak Seng (1989-1992), Dr. Rohana P. Subasinghe (1992-1996)

Seated: Dr. Supranee Chinabut (1992-2002), Dr. Celia Lavilla-Torres (1996-1999), Dr. Melba B. Reantaso (2002-2005)

Founding Members of the FHS/AFS

L-R: Prof. Mohammed Shariff, Dr. Rohana P. Subasinghe, Dr. James Richard Arthur and Dr. Leong Tak Seng.



Thanks to Drs. Victoria Alday, Richard Arthur, S Bower, Elen Catap, Supranee Chinabut, Judith Handler, John Humphrey, Barry Hill, Naoki Itoh, Somkiat Kanchanakhan, Gilda Po, CV Mohan, Mohamed Shariff and Rohana Subasinghe for info/news and contributions.

This Electronic Newsletter, intended for FHS/AFS members and other subscribers, contains information on member news/updates, regional/global project news/updates, important events, useful publications and other aquatic animal health resources to and from the Asia-Pacific region. Regular issues will come out on a monthly, bimonthly or quarterly basis depending on available information; newsletter archive can be accessed at <http://afs-fhs.seafdec.org.ph>. For contributions, subscription/unsubscription, please send e-mail to melba@goeaston.net.