

FISHBYTES

THE NEWSLETTER OF THE FISHERIES CENTRE – UNIVERSITY OF BRITISH COLUMBIA
VOLUME 8 ISSUE 5 SEPTEMBER/OCTOBER 2002

Project Seahorse: a Multidisciplinary Approach to Marine Conservation

By Amanda Vincent

Project Seahorse is a marine conservation team that integrates research and management in unusual ways. The seahorses' male pregnancy and attractive appearance means that these fishes and their relatives are wonderful icon species for a large suite of marine problems and solutions. For example, these charismatic animals are taken as bycatch in non-selective fishing gear, requiring us to seek strategies to reduce indiscriminate waste. They are also exploited in unmanaged small multi-species fisheries, goading us to find new models for management (especially marine protected areas) and alternative livelihoods for subsistence fishers. And they live in seagrasses, mangroves, corals and estuaries, pushing us to develop participatory coastal zone management and habitat restoration programmes.

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Seahorses provide a rare example of documented non-food fisheries. Many of the 32 species are internationally traded for traditional medicines, ornamental display and curiosities at levels that are economically important for many subsistence fishers but that are depleting wild populations.

Globally, non-food fisheries exist for a wide array of fish, but their economic and ecological impacts are little understood. A review of such exploitation and its impacts is one area of Project Seahorse research.



Our Project Seahorse team is multidisciplinary, with scientists and social scientists working together to find solutions. Our greatest experience lies in biology but we have added many other skills to the mix. Our 35 professional team members currently operate in eight countries, and have experience and ongoing collaborations in many more. We take the general view that co-operation and

communication is more constructive than conflict. To that end, we work closely with fishers, traditional medicine traders, public aquaria, hobbyists, aquaculturists, professional colleagues, government agencies and like-minded non-governmental organisations. This collaborative approach has led to shared resources and a positive approach to problem solving.

Project Seahorse acts as both an academic unit and a non-governmental organisation. Our longest-running field project is in the central Philippines, where a large Filipino team works with villagers to find solutions to problems of resource depletion – particularly to build management capacity in fishing communities – and supports government efforts to curtail illegal fishing. Our Hong Kong project successfully encourages the traditional medicine community to engage in trade management for sustainability. Our Australian work prompts a government with strong enforcement capacity to address the large bycatch in its prawn trawl fisheries. Our co-ordination role in CITES sets seahorses as an example of multi lateral involvement in fisheries trade issues. And so on...

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Sad Farewell to a Friend and Colleague

Dr Robert (Bob) Johannes 1936 - 2002

By Amanda Vincent

It is with great sorrow we let you know that Dr Robert (Bob) Johannes died in Australia on 2 September 2002, after a long battle with serious illness. Bob, as many of you know, was a wonderful person with a mighty mind and considerable courage. Bob earned his BSc and MSc at UBC, then his PhD at the University of Hawaii. He held posts at the University of Georgia, University of Hawaii and CSIRO in Australia, before establishing his own consultancy. His early work included pioneering research in marine microbial ecology but much of his life

was dedicated to fostering better management of marine resources. Among his many conservation contributions, he pushed us to recognise the great value of fishers' traditional knowledge and brought the problem of cyanide fishing to world attention. He was a good friend of the UBC Fisheries Centre, most recently leading us into the workshop on "Putting Fishers' Knowledge to Work" (2001). His death is a great blow to many people around the world. Plans are afoot to try to commemorate

and celebrate his life and learning, in order to turn our loss into something very positive.



Dr Bob Johannes being presented with Kwakwaka'wakw artwork by Kla-kisht-ke-is Chief, Simon Lucas, at the "Putting Fishers' Knowledge to Work" workshop in Vancouver, 2001. Dr Johannes was keynote speaker. Photo by Laurie Ryan

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Project Seahorse partners include the Zoological Society of London (UK), Haribon Foundation for the Conserva-



Dried seahorses for sale as Chinese medicine
Photo by Tomas Bertelsen; Rolex awards

tion of Natural Resources (Philippines), World Wide Fund for Nature (WWF) Hong Kong, TRAFFIC East Asia, John G. Shedd Aquarium (USA), and the University of Tasmania (Australia).

Grant support comes from a range of research council, governmental, conservation and development sources, as well as private enterprise. Our largest donors are the John G. Shedd Aquarium, Community Fund (UK), Guylian Chocolates (Belgium), MacArthur Foundation (USA), and the International Development Research Centre (Canada).

Project Seahorse moved its base to the UBC because we like the innovative, integrated, and international approach that has emerged at the Fisheries Centre. We are excited about the opportunity to share ideas and plans with our new colleagues and we thank you all for the warm welcome.

New Indonesian MOA

On July 25, 2002, the Rector of Universitas Riau, Indonesia, Prof. Muchtar Ahmad, and UBC Fisheries Centre Director, Dr Tony Pitcher, signed a Memorandum of Agreement. The Fisheries Centre proposes an ecosystem modelling and management course for faculty members of Universitas Riau and other resource-users in that province. Another proposed collaborative project is ecosystem-based assessment and restoration in the Malacca Strait, and possible application of spatial modelling to determine the ecological and economic impacts of sand-mining in local waters. This is the second MoA that the Fisheries Centre has signed with an Indonesian institution. The first was with the Fisheries Faculty of Bogor Agriculture Institute in 1998.



Tony Pitcher (left) and Prof. Ahmad signing the agreement
Photo by Tonny Wagey

Third FishBase Consortium Meeting

The Consortium of seven research institutions created in 2000, in Rome, to guide and support FishBase, the online encyclopedia of fishes had its third annual meeting in Tervuren, near Brussels, on Sept. 5-6, 2002. The Fisheries Centre, one of the consortium members, was represented by Daniel Pauly and Deng Palomares, who both made presentations (on the use of FishBase by the *Sea Around Us* project, and on the historical reconstruction of ichthyological expeditions,

respectively) at the mini-symposium held before the business sessions. We also emphasized the active use that members of the Fisheries Centre make of FishBase, one of the reasons why its online version recently surpassed 4 million 'hits' per month. A result of the last session was the election of Daniel Pauly as vice-chair of the consortium for the period from Sept. 2002 to August 2003, which also made him chair-elect for the subsequent year.

News and Notes - Welcome Everyone!

This year we welcome more new faces to the Fisheries Centre than ever, including distinguished new faculty member, Dr Amanda Vincent. Welcome everyone!

Dr Amanda Vincent has recently moved from Montreal to Vancouver, after being awarded the Canada Research Chair in Marine Conservation at the Fisheries Centre of the University of British Columbia (see p1). She has a PhD from the University of Cambridge, England and Hons BSc from the University of Western Ontario. She was a Visiting Fellow in Sweden and Germany; a Senior Research Fellow at the University of Oxford, England for five years; and on faculty at McGill University, Montréal, from 1996-2002. In 2000, McGill University named her a William Dawson Scholar. The same year, she was awarded the world's pre-eminent award in marine conservation - a Pew Fellowship - for her analyses and advocacy relating to non-food fisheries. Dr Vincent was the first person to study seahorses underwater, the first to document the extensive trade in these fishes and the first to initiate a seahorse conservation project. Her work for marine conservation earned her the 1994 Whitley Award in Animal Conservation (from the Royal Geographical Society, UK) and the 1997 Grand Prix International pour l'Environnement Marin (from the Confédération Mondiale des Activités Subaquatiques). In 1998, she became the first Canadian winner of the highly competitive Rolex Award for Enterprise (Environment). In 1999, *TIME Canada* named her a *Leader for the 21st Century* and *La Presse* (the leading North American French language newspaper) named her *Personality of the Year for Humanities and Social Sciences, Science and Technology*.

Dr Heather Hall is Curator of Lower Vertebrates for the Zoological Society of London, UK. She established Project Seahorse with Amanda Vincent and is the Associate Director, focusing on issues surrounding the aquarium trade in these fishes and on co-ordinating

breeding programmes for seahorses in public aquaria. In addition, she heads up all conservation breeding programmes for fishes and aquatic invertebrates in the zoo and aquarium community in Europe. Heather is Chair of the Fish Section of the IUCN Reintroduction Specialist Group, a member of the UK Zoos Forum, and a committee member of Reef Conservation UK.

Dr Keith Martin-Smith has been working with Project Seahorse as a scientist since August 2000, following work on freshwater fishes in Borneo and Atlantic salmon in Scotland. His focus is on issues affecting Australian species of seahorses, pipefishes, pipehorses and seadragons including legislation, policy, fisheries, trade, aquaculture and education.

Dr Melita Samoilys is Project Seahorse's habitat and Marine Protected Areas scientist, and is based at the Zoological Society of London. She has 20 years' coral reef research experience with a focus on fisheries and fish biology. She has been working in the Philippines since 2000 where she is responsible for directing Project Seahorse's field conservation programme.

Daphne D. Villanueva is the National Director of the Project Seahorse-Haribon Foundation partnership initiative for seahorse conservation and community-based coastal resource management program in the Philippines. She has 17 years of social development experience in the Philippines, 8 years of which were in community-based natural resource management.

Jacqueline Blomfield is the Project Seahorse Operations Manager, responsible for ensuring that the team's policies, systems and guidelines are implemented, among a wide array of other roles.

More Project Seahorse introductions next issue!

Stephen Ban is an MSc student with Dr Andrew Trites. He has extensive GIS experience, which he will use to model Steller sea lion habitat and distribution.

Brajgeet Bhatthal is an MSc student with Dr Daniel Pauly. She has a BSc in Biology from Panjab University in Chandigarh, India.

William Cheung has returned to do a PhD with Dr Tony Pitcher. He is planning to work on the effects of biodiversity change on marine ecosystem restoration in Hong Kong.

Lew Coggins is a PhD student with Dr Carl Walters. He is interested in population dynamics and fisheries stock assessment, particularly endangered species and communities in modified habitats.

Aftab Erfan has been a regular summer visitor to the Fisheries Centre, most recently creating the website for the *Back to the Future* project. Aftab returns as an Honours student with Dr Pitcher to build an Antarctic ecosystem model.

Adrian Kitchingman spent four years working in research for Fisheries Western Australia, and has now joined the Fisheries Centre as a research assistant for Reg Watson on the *Sea Around Us* project.

Laura Kucey is an MSc student, who will be working on the effects of human disturbance on Steller sea lions with Dr Andrew Trites. She has spent the past two years in Washington, D.C. working for *National Geographic Magazine*.

Mike Melnychuk returns to begin an MSc in Zoology with Dr Carl Walters, looking at juvenile salmonid mortality in southern B.C. coastal waters.

Wilf Swartz has returned to the Fisheries Centre as an MSc student with Dr Pauly and will be focusing on Japan's fisheries strategy.

Louisa Wood has an MSc in Tropical Coastal Management from the University of Newcastle Upon Tyne and has worked in France and the Seychelles. She joins the *Sea Around Us* project to research global unreported fishing.

For more information about the Fisheries Centre's students, visit www.fisheries.ubc.ca/students

News and Notes

Congratulations

Congratulations to Siv Reithe, PhD Candidate at the Norwegian College of Fisheries Science, Tromsø, Norway. Ms Reithe won the 2002 International Institute of Fisheries and Fish Trade's "Best student paper" for her contribution 'Marine Reserves and Quotas as Fisheries Management Tools in a Patchy Environment: When does Marine Reserves Creation Pay?' Her paper reported the significant finding that, under certain biological and economic conditions, the use of quotas and a marine reserve, rather than a quota only management regime, is the economic rent-maximizing management strategy. This is the first time anyone has been able to show that there are conditions under which marine reserve creation can lead to rent-maximization under deterministic conditions. The Fisheries Centre collaborates with the Norwegian College of Fisheries Science, through its Fisheries Economics Research Unit (FERU). A formal Memorandum of Agreement between the two institutions is currently being negotiated. Dr Ussif Rashid Sumaila of the Fisheries Centre, together with Drs Claire Armstrong and Ola Flaaten, of the Norwegian College of Fisheries Science, are the dissertation advisors of Ms Reithe. See the next issue of FishBytes for more about the new Fisheries Economics Research Unit!

Congratulations and welcome to Tonny Wagey, who successfully defended his PhD *Ecology and Physiology of Phytoplankton in Ambon Bay, Indonesia* on June 28, 2002 at the Department of Earth and Ocean Sciences, UBC. Tonny is a founding member of the FC Indonesian Specialist Advisory Team and is joining the Fisheries Centre as a Research Associate, developing projects for ecosystem based fisheries management in Indonesia.



Congratulations to Bernie Walrut, who has successfully defended his PhD, *Sea Ranching and Aspects of the Common Law: a proposal for a Legislative Framework*, supervised by Prof. A J McClean and Prof. R K Paisley, from UBC's Faculty of Law, and Dr Daniel Pauly

from FC. Bernie has spent the past five years commuting between UBC and his home in Adelaide, Australia, where he is a lawyer. Bernie has returned to private practice in Adelaide and hopes to turn more attention to advising and working with those interested/involved in the law and its application to aquaculture and fisheries.

Congratulations and welcome to Chief Simon Lucas, who has been appointed Adjunct Professor at the Fisheries Centre, UBC. Chief Lucas was awarded an honorary doctorate in May (see FishBytes 8-4).

Conferences

Modelling Antarctic Ecosystems - A UBC Fisheries Centre workshop, April 14-17th, 2003. The Fisheries Centre announces a workshop focused on modelling Antarctic ecosystems. Sessions planned include capturing critical features of Antarctic ecology in models and forecasting impacts of fisheries and climate change on Antarctic ecosystems. For more detailed information, please visit: www.fisheries.ubc.ca/events/workshops/antarctic.php For registration enquiries, contact events@fisheries.ubc.ca

21st Wakefield Fisheries Symposium – Assessment and Management of New and Developed Fisheries in Data-Limited Situations. October 22-25, 2003, Anchorage, Alaska. Seeking contributions in areas including: development of procedures to assess abundance and productivity of stocks with little information; indicators of stock health from limited sampling programs; and use of traditional knowledge in development of emerging fisheries. Abstracts due February 14th 2003. For full details visit <http://www.uaf.edu/seagrant/Conferences/dls-call.html>

Apologies

We sincerely apologise to everyone who emailed us over the past year and did not receive a timely response. Our email address is now fully functional and we look forward to your correspondence!

Also, in the last issue, we incorrectly credited the picture of Chief Lucas. The photographer was Martin Dee, Telestudios.

FishBytes is the newsletter of the Fisheries Centre at the University of British Columbia, and is published six times per year. Subscriptions are free of charge.

Our mailing address is UBC Fisheries Centre, 2204 Main Mall, Vancouver, British Columbia, Canada, V6T 1Z4. Our fax number is (604) 822-8934. All contributions, queries (including reprint requests), subscription requests, and address changes should be sent to Robyn Forrest, *FishBytes* Editor, at the above address, or by email to FishBytes@fisheries.ubc.ca. Electronic versions of contributions are preferred.

Opinions expressed in this newsletter do not necessarily reflect those of the Fisheries Centre or its members.

Be sure to visit the Fisheries Centre's website, www.fisheries.ubc.ca, and follow the links to *FishBytes*. There, you'll also find details on Fisheries Centre projects, publications, faculty and students, as well as information on upcoming Fisheries Centre events.

