



## FISHERIES CENTRE

[THE UNIVERSITY OF  
BRITISH COLUMBIA](#)

[FC Home  
Contact Us](#)

[UBC Home  
Site Map](#)

[Graduate Studies](#)

[Welcome Message](#)

[Mission](#)

[Events](#)

[Training & Workshops](#)

[Seminar Series](#)

[Larkin Lectures](#)

[Members & Specialities](#)

[Research Units](#)

[Marine Mammal](#)

[BC Fish. Res. Branch](#)

[Gallery](#)

[Aboriginal Fisheries](#)

[Research Projects](#)

[Partners/Networks](#)

[Publications](#)

[Books](#)

[Journals](#)

[FishBytes](#)

[Reports](#)

[News Articles](#)

[Software](#)

[Links](#)

[Graduate Program](#)

[Graduate Students](#)

[Current Students](#)

[Former Students](#)



The University of  
British Columbia

# FishBytes

**Volume 3 Issue 3 June/July 1997**

THE NEWSLETTER OF THE FISHERIES CENTRE AT UBC

---

### **ON THIS ISSUE...**

[\*Pacific Fisheries Think-Tank Update\*](#)

[\*FC's Support to Marine Stewardship Council\*](#)

[\*Adaptive Management Workshops Aid in Planning  
Habitat Restoration Experiments\*](#)

[\*Ecosystem Change in the Bering Sea\*](#)

[\*Groundfish Workshop\*](#)

[\*Fisheries Management under Uncertainty Symposium\*](#)

[\*Visiting Scientists\*](#)

[\*In House Announcements\*](#)

[\*\*FOR YOUR DIARY.....\*\*](#)

---

## **PACIFIC FISHERIES THINK TANK UPDATE**

by Nigel Haggan

The Pacific Fisheries Think Tank (PFTT), a partnership between UBC Fisheries Centre and SFU Institute of Fisheries Analysis, was established in November 1996 with the objective of harnessing the fisheries-related talents of the two Universities and to provide a new, non-aligned forum that might encourage the development of a fresh vision for Pacific fisheries. The PFTT has, so far, hosted 4 workshops. The first, in December 1996, was held at UBC on a Canadian Code of Conduct for Responsible Fishing, initiated by Canadian fishers in response to Canada's signing of the Rio Convention and a generic Code of Conduct drafted by FAO, Rome. The workshop was sponsored by the Pacific Groundfish Research and Conservation Society. This was the first of four 'Code' workshops covering BC, freshwater, Arctic and Atlantic fisheries in Canada. Input from these sessions will be consolidated into an "Industry Consensus Code" to be submitted to the federal fisheries minister for approval. The workshop was driven by industry with DFO providing a secretariat service and Think Tank members providing facilitation and scientific input. This was a much more "horizontal" process than the classic DFO or science-driven agenda. It is also, one hopes, a sign of a more equal relationship between management, harvesters and science. A report summarizing the workshop's comments on the draft Code was prepared by FC rapporteurs and provided to DFO and the industrial sponsors.

In January 1997, the PFTT hosted a workshop at the UBC First Nations House of Learning for the Marine Stewardship Council's 'ecolabelling' initiative. The MSC is a partnership between Unilever, a UK based transnational consortium which handles some 20% of the world seafood market, and the World Wildlife Fund. The MSC intends to use the services of independent accreditation companies, and liaise with other 'green' initiatives in ecolabelling, such as the International Standards Organization (ISO). This was the third in a series of eight international workshops, following an initial meeting in London in 1996 (see FishBytes Vol.2, No.5), to introduce the idea to local and regional stakeholders and gather feedback. The final set of guidelines for accreditation will likely be published early in 1998. The workshop was facilitated by Lee Langstaff of Resolve, Inc. Washington DC, who also prepared a report.

In February 1997 the PFTT held a 1-day workshop entitled "BC Salmon, A Fishery in Transition" (see FishBytes Vol 3, No 2). Morning sessions addressed issues relating to fish stocks and management structures with emphasis on risk and uncertainty. The afternoon session dealt with the building of a vision for a sustainable salmon fishery and addressed the difficulty of managing such a complex fishery. Workshop presentations and input from attendees is contained in Pacific Fisheries Think Tank Report #1 "BC Salmon, A Fishery in Transition" available from the Think Tanks SFU office (cost is Cdn\$25.00 + post & packing). The PFTT is currently seeking resources to consolidate the February 7<sup>th</sup> material and other scientific input into a "Blueprint for Transition" for BC's salmon industry.

A 2 day "Exploring Cooperative Management" workshop on April 21/22 at SFU downtown campus was attended by a range of practitioners from BC and Alaska. Examples of co-management systems that have worked, and some that haven't worked, were discussed. Principles, functions and criteria were presented and explored in plenary and breakout sessions. The new Fraser River Council was

described as a representative and self-sustaining cooperative body involving federal, provincial, municipal and First Nation governments. Leadership, commitment and trust were identified as key ingredients. Communication between local initiatives managing migratory stocks must become a high priority. A summary report will be available in late June, 1997.

To obtain further information on the activities of the Pacific Fisheries Think Tank visit the Web page: <http://www.sfu.ca/continuing-studies/CAPPs/Science/thinktank.html>.

## **FC's Support to Marine Stewardship Council**

On May 20<sup>th</sup> the Fisheries Centre officially signed its support to the goals and activities of the London-based Marine Stewardship Council (MSC), a new conservation initiative created in February, 1997 by the partnership between the World Wildlife Fund and Anglo-Dutch Unilever (a major buyer of frozen fish and manufacturer of many frozen fish products). The Centre's support follows the active participation of four faculty and associates (T. Pitcher, D. Pauly, G. Munro and J. Sproul) in the development of the first set of principles and criteria of the MSC in a workshop last fall (see FishBytes Vol.2, No. 5). The council will harness market forces and consumer power in favour of sustainable fisheries through voluntary, independent certification of fisheries and labeling of fish products. Fisheries operators will be awarded certification subject to an evaluation and assessment carried out by independent certifiers accredited by the MSC. This process is expected to ensure that the fishery in question conforms to the principles and criteria for sustainable fishing established by the MSC.

### **Adaptive Management Workshops Aid in Planning Habitat Restoration Experiments**

by Dr. Carl Walters\*

The Adaptive Environmental Assessment and Management (AEAM) process was developed here at UBC in the early 1970s. It is now used worldwide for bringing together interdisciplinary teams of scientists, managers, and resource stakeholders to develop models and policy options for a wide variety of resource management problems. AEAM uses development of computer models as a way to focus discussions, improve communication, and identify critical uncertainties that can be resolved through management experiments. I am currently involved in four AEAM efforts: (1) Florida Bay, where we are trying to develop policies to reverse sea-grass dieoffs that threaten major recreational fisheries in the Bay and in the Florida Keys; (2) upper Mississippi River, where we are trying to find ways to manage 26 navigation dams to allow for better flood control and restoration of riparian vegetation communities while maintaining recreational fishing opportunities that have been created by the navigation pools; (3) Kootenai River, where we are designing experimental water release and fertilization schedules for the Libby Dam, to test for habitat requirements to restore spawning success threatened stocks like white sturgeon and burbot; and (4) Great Barrier Reef, where a large-scale fishing experiment is now underway to "look ahead" at ecosystem impacts of rapidly developing fisheries that are targetting the top predator fish species in the reef systems.

*\*Dr. Walters is currently spending two months with the Bureau of Resource Science in Canberra, on a fellowship to review AEAM practice and problems in Australia.*

## **Ecosystem Change in the Bering Sea**

The Fisheries Centre has joined forces with the National Marine Fisheries Service and the Institute for Marine Science, University of Alaska, in a research project aimed to analyze the causes of ecosystem changes observed in the Bering Sea during the past.

The Bering Sea has supported a considerable indigenous and commercial demand for fish, crustaceans and marine mammals, and despite a variety of regulations to safeguard fish, mammals and birds, some species have undergone large and sometimes sudden population fluctuations. Among the best documented changes are the declines of the Steller sea lions and northern fur seals and the outburst of pollock since the late 1960s.

The project will evaluate a frequently proposed explanation. A combination of climatic changes may have acted in concert with harvest of top predators, and the impacts cascaded down the food web causing a shift in the system to one dominated by pollock. The proposed research will apply recent developments in multispecies trophic modeling, represented by ECOPATH and ECOSIM (see FishBytes Vol.2, N. 3, 1996), to examine how the structure of marine communities in the North Pacific may have changed in response to different fishing, harvesting and climate regimes. It will also examine the likely effects of different harvest regimes for pollock on the Bering Sea ecosystem. The study is being funded by the Packard Foundation, and will be undertaken between June 1997 and June 1998.

## **Groundfish Workshop**

by Marcelo Vasconcellos

As part of schedule for the B.C. Groundfish Research Project, on April 23<sup>rd</sup> the Fisheries Centre held a workshop on the Spatial Analysis of Groundfish Abundance. The Groundfish project is a two year contract between the Canadian Groundfish Research Conservation Society (CGRCS) and the Fisheries Centre, which aims to provide an independent ongoing assessment of groundfish stocks, and to work in partnership with the Department of Fisheries and Oceans and industry to establish the future sustainability and viability of the Pacific groundfish resources. The project will sponsor workshops on stock assessment methods, bycatch reduction devices and other related issues.

The aim of the workshop was to integrate the practical experience of skippers into the process of improving estimates of abundance indices for groundfish species in B.C. Specifically, the meeting was designed to help fisheries scientists make better use of logbook and observer program data in the estimation of stock size using spatial analysis of swept area methods. Data will be available to analyze the likely impact of trawlers on bottom communities and hence provide information necessary to the definition of Marine Protected Areas off B.C. - a major trend in fishing policies (see

*FishBytes* Vol. 3, No. 2).

Participants included trawler skippers, representatives of the CGRCS, Fisheries Centre and DFO. A computer program developed by the Fisheries Centre was used to map the location of trawls, the trawling intensity and catch rates of each groundfish species, besides functioning as an interface for skippers to define areas along the shelf considered not trawlable, i.e., areas known to hold high densities of fish but not trawlable due to bottom characteristics, depth limitation, closed areas or due to the presence of high densities of by-catch species (e.g. halibut).

Results so far obtained in the Groundfish Project indicate that only approximately 10% of the shelf area off BC is used by trawlers, and that most of the areas experience less than 10 to 12% of the bottom trawled per year. The lack of information on effort, catch rates and species composition in a considerable portion of the shelf makes it difficult to provide unbiased abundance estimates from spatial extrapolations of catch rates. For some rockfish species, such as the Pacific Ocean Perch and Longspine Thornyhead, catch rate data and skippers knowledge seems to point to high fish densities in offshore deep waters, i.e., to areas currently not trawlable. Fisheries scientists see in these cases some opportunity and necessity for independent biomass estimate surveys in order to provide better information on the potential yield and exploitation status of these stocks.

Overall, the workshop represented a valuable important step toward bringing fishers traditional knowledge into fisheries stock assessment research. The project plans to hold future workshops on bycatch reduction devices and on the design of strategies for the B.C. trawl fishery.

## **Fisheries Management under Uncertainty Symposium**

*Bergen 3-5 June 1997*

by Sylvie Gu  nette

The symposium concentrated on three North Atlantic ecosystems and divided into seven sections: 1. Concepts and methods of handling uncertainty; 2. What are the limits set by nature on variability and manageability of fisheries?; 3. Biological multispecies modelling; 4. Bio-economic multispecies or multifleet modelling; 5. On the structure of the commons in fisheries access rights, degrees of private and common ownership; 6. Uncertainties in international fisheries management; 7. Management objectives: tools in setting and achieving them.

The symposium attracted over 150 people coming mainly from Scandinavia, Iceland, Canada, France, Belgium, Italy, Russia and UK. The meeting highlight was a banquet held on the *Statsraad Lehmkuhl*, Norway's largest and oldest square rigged sailing ship.

Several talks underlined the uncertainties in assessments. Odd Nakken showed that for cod in particular, the agreed and actual catches are generally higher than the advised one. In addition the scientific advice is generally too optimistic and the harvest rate underestimated. In Norway and Iceland particularly, the trend is to develop multispecies models and methods to get better estimates in modelling and sampling. Canadians talked about community-based co-management and in-season monitoring and decision-making. Ransom Myers began his talk with a powerful image: the increase in cod abundance suspected in the last assessment compared with the population estimate of the last 20 years.... and the last 40 years. In that light, the

increase loses its importance. The bio-economic module was mainly about prey-predator relationship, multi-species and multi-fleet models. A provocative talk was given by Sjur Flåm, a Norwegian economist, that contemplated the possibility of overfish the Atlanto-Scandian herring stock to keep the stock from growing and migrating into Icelandic waters. His strategy was meant as a bargaining argument for Norway.

Rashid Sumaila and I talked on the use of marine reserves as a fishery management tool. Rashid presented the economic impact of a marine reserve. Leonardo Huato, Tony Pitcher and I presented a spatially- structured model inspired by the MacCall basin model. The proceedings of this symposium will be published in *Fisheries Research*.

## **Visiting Scientists**

**Dr. Kjartan G. Magnusson**, Professor of Biomathematics in the Department of Mathematics, University of Iceland is visiting the Fisheries Centre for five weeks in June and July. Dr. Magnusson previously spent eight months at the Centre while on sabbatical in 1993. His main research interests are in the field of population models, in particular multispecies models and models of interaction between populations. Dr. Magnusson is currently working on two projects. Firstly, the effect of cannibalism on predator - prey systems, in particular, whether cannibalism can have a destabilizing effect on an otherwise stable system and secondly, the use of the frequency distribution of the stomach content to obtain information about the feeding pattern of predatory fish, in particular the average meal frequency and meal size. Some work on obtaining estimates of the above parameters for cod feeding on schools of capelin has already been published (*Can. J. Fish. Aquat. Sci.* 54: 876-889 (1997)). Dr. Magnusson is now working on a model which combines a digestion model with a feeding model and looking at how different feeding patterns are reflected in the frequency distribution of the stomach content. He is also interested in trying to relate the estimates of meal frequency and/or meal size to local density of capelin. Such local density estimates are available and where in fact measured in conjunction with sampling of stomach contents of cod. It is therefore of interest to find out more about schooling behaviour, e.g. how the density, size and distribution of schools changes as the total abundance in a region changes. He hopes to get some ideas on which to base schooling models from his stay at the Centre. Dr. Magnusson returns to Iceland on July 28.

**Mr. Toshio Katsukawa**, from Japan, obtained his M.Sc from the University of Tokyo, where he is currently taking his Ph.D. He will stay in the Fisheries Center until March 1998 as a visiting scholar. His reasons for coming to the FC are to learn about Canadian fisheries management and gain a new insight into fisheries management. He also has a dream to be able to speak English. He also likes to avoid the noise of Tokyo and write papers in a quiet atmosphere. His Master's thesis was about Spawning Potential of fish stocks, which he presented at Fisheries Centre last year. See *FishBytes* Vol. 2(4) and *Rev. Fish. Fish. Biol.*, Vol.7, N. 2, 1997).

## **In House Announcements**

### **Fisheries Centre Notes**

A report from the *Mass-Balance Models of North-eastern Pacific Ecosystems*

workshop held at the Fisheries Centre from November 6-10<sup>th</sup>, 1996 is now available as a Fisheries Centre Report, Vol.4, No. 1. Price \$10. The report includes the preliminary mass-balance models of trophic fluxes in the Alaska Gyre, on the shelf off southern British Columbia, and in the Strait of Georgia. For further details please contact Veronica Lauck tel (604) 822-0618, fax (604) 822-8934.

**Dr. Daniel Pauly** was recently awarded a medal of the "Board of Trustees - ICLARM - 1996 Staff Award". The medal was awarded for the best ICLARM staff of 1996, by John L. Dillon, Chair, Board of Trustees.

### **Local Conference Fund**

The UBC Faculty of Graduate Studies has been allocated resources from the Teaching and Learning Enhancement Fund for *Conference Organization Support* and *Registration Fee Support*. As in the previous years, the Local Conference Fund provides support to local conferences which are organized by graduate students (Conference Organization Support), as well as those national and international conferences graduate students may attend locally (Registration Fee Support). Each graduate student, individually or as a member of a group, may make only one application per year and individuals may receive up to \$150 maximum per year for Registration Fee Support. For the Conference Organization Support, no request for funding should be in excess of \$1,500. Application(s) deadline will be October 15<sup>th</sup>, 1997 and January 31<sup>st</sup>, 1998. For further details please contact Giles Gysel (2-8501) or Khadija Dhanji (2-0976) at the Faculty of Graduate Studies, UBC, Crescent Rd., Vancouver, BC V6T 1Z2, fax: 822-5802.

### **Upcoming Fisheries Centre Workshops**

#### **September 15-16<sup>th</sup>**

"The Spatial Structure of Herring Stocks and its Impacts on the Assessment of Herring Fisheries."

*Planning and discussion group by invitation.*

*Venue: Fisheries Centre*

#### **November 14<sup>th</sup>**

"An Ethical Analysis of Fisheries: Canadians and Fish Stocks East and West."

*Presentations at the inception of a new SSHRC Strategic Research Project jointly with UVic and MUN.*

*Venue: Fisheries Centre.*

#### **November 21 - 22<sup>nd</sup>**

"Strait of Georgia Ecosystem Reconstruction Workshop"

*Discussion of preliminary results from the Peter Wall Advanced Study Institute project "Back to the Future".*

*Venue: First Nations House of Learning.*

## FOR YOUR DIARY.....

### Grant Opportunity

The James S. McDonnell Foundation plans to award 10 grants of \$1 million each to young scientists. Applicants must be younger than 40 or must have received their Ph.D. within the last 12 years. Grants will be given in 5 areas of study: astrophysics and cosmology, human genetics, global and complex systems, human cognition, and the history and philosophy of science. For more information visit [www.jsmf.org](http://www.jsmf.org).

### Job Opportunity

The Fisheries Laboratory, Lowestoft, England, is setting up a postdoctoral position from October/1997 for 2.5 years. The position is aimed to develop a range of system models for the North Sea multispecies system, as relevant to management of the North Sea industrial fisheries, and to evaluate a range of management procedures for those fisheries. Applicants must have a good ecology background with a thorough grounding in a variety of approaches to investigating and modelling complex multispecies systems, and must be comfortable with heavy duty computational work.

For more information contact the Fisheries Laboratory at the e-mail: [70734.513@compuServe.com](mailto:70734.513@compuServe.com)

### February 16 - 20<sup>th</sup> , 1998

The 0+ Fish as Indicator of the Ecological Status of Rivers Workshop is to be held at Vienna, Austria. The aim of the workshop is to provide an overview on the ecophysiology and population dynamics of fish early stages , sampling methodologies and species identification. For more information please contact: Laurence Flore, Institute of Zoology, Dept. of Limnology, Althanstrasse 14, A-1090 Vienna, Austria., fax: 0043 1 31336-778;

e-mail: [Flole@zoo.univie.ac.at](mailto:Flole@zoo.univie.ac.at)

### September 2 - 4<sup>th</sup>, 1998

The First International Symposium on Fisheries and Ecology is to be held in Trabzon, Turkey. The main subjects will be on Global Fishery Resources, Processes in Marine Ecosystems, Ecology and Population Dynamics of Marine Organisms, Fisheries and Aquaculture, and Human Interventions on Marine Ecosystems. Further information on the address: Dr. Kadir Seyhan, FISHECO-98, KTU Faculty of Marine Science, 61530, Camburnu, Trabzon, Turkey. Fax: 90(462) 7522158,

e-mail: [fisheco@risc01.bim.ktu.edu.tr](mailto:fisheco@risc01.bim.ktu.edu.tr)

### June 1-4<sup>th</sup>, 1999.

International Conference on Evaluating the Benefits of Recreational Fishing. For details contact Bonnie at [events@fisheries.com](mailto:events@fisheries.com).

### Publication Announcement

*Methodes pour l'evaluation des ressources halieutiques; Daniel Pauly, 1997, Cepadues Edition, Toulouse, 288p.*

*Guidelines for Shellfish Farming in Alaska, Brian Paus and Ray RaLonde, 1997, 24pp.*

Price US\$4.00. Alaska Sea Grant College Program. University of Alaska Fairbanks. P.O. Box 755040, Fairbanks, AK 99775-5040.

e-mail:[FYPUBS@aurora.alaska.edu](mailto:FYPUBS@aurora.alaska.edu)

*Contributions to FishBytes should be sent to: Fisheries Centre, 2204 Main Mall, U.B.C., Vancouver, B.C. V6T 1Z4 e-mail:<[melanie@fisheries.com](mailto:melanie@fisheries.com)>*



Copyright © 1996: UBC Fisheries Centre  
All rights reserved for their respective owners

---

Send mail to the [webmaster](#) with questions or comments about this web site. Copyright © 1999-2002