S7 MEQ/FIS Topic Session
Current and emerging issues of marine and estuarine aquaculture in the Pacific region: Carrying capacity, ecosystem function and socioeconomics

Co-Convenors: Ik-Kyo Chung (Korea), Jian-Guang Fang (China), Carolyn Friedman (U.S.A.) and Galina S. Gavrilova (Russia)

It is well recognized that for successful and long-term utilization of waters for aquaculture and other uses, we must consider the allocation of resources and trophic structure of the system. Ecosystem-based management of resources requires ways to monitor current conditions and predict future states, particularly in response to known human activities that impact the marine environment. Mariculture is an important expanding industry in all PICES countries, and this session will consider mariculture as a case study on how the ecosystem impacts of a particular human activity can be managed. Indicators and predictive models are being used to evaluate and hypothesize the responses of an ecosystem to environmental impact and resulting management actions. This session will bring experts together to identify criteria for suitable indicators and the utilities of predictive models relevant to the impacts of mariculture, to assess the sensitivities of indicators, and to highlight gaps in current knowledge.

Tuesday, October 4, 2003 08:30-12:30

08:30-08:40 **Introduction by Convenors**

08:40-09:10 **Michael Rust and Colin Nash** (Invited)
International efforts to apply environmental risk assessment to marine aquaculture (S7-2587)

09:10-09:30 **Galina S. Gavrilova**
The current status of research and problems of invertebrate mariculture in the Russian Far East (S7-2258)

09:30-09:50 **Yongsik Sin**
Use of ecosystem models for study and management of coastal estuarine ecosystems in Korea (S7-2493)

09:50-10:10 **Hisashi Yokoyama**
Proposal of site selection guidelines for fish farming in Japanese coastal waters (S7-2297)

10:10-10:30 **Coffee Break**

10:30-10:50 **Xuelei Zhang, M.Y. Zhu, L.H. Zhang and D. Zhang**
A first exploration on differential impacts of bivalve mollusc on the two phytoplankton groups, diatom and dinoflagellate (S7-2212)

10:50-11:10 **Dinabandhu Sahoo**
Integrating seaweed cultivation into brackish water aquaculture - Chilika Model (S7-2356)

11:10-11:30 **Ik Kyo Chung, Yun He Kang and Yu-Feng Yang**
Seasonal assembly of seaweed species in the sustainable seaweed integrated aquaculture system in Korea (S7-2378)

11:30-11:50 **Richard J. Beamish, Chrys-Ellen M. Neville and Ruston M. Sweeting**
Regimes and the relationship between farmed and wild salmon in British Columbia (S7-2610)

11:50-12:10 **Igor Khovansky and Anastassia Mednikova**
Perspectives of salmon sea ranching in the coast of the Okhotsk Sea and in estuaries of rivers (S7-2219)

12:10-12:30 **Larissa A. Gayko**
Influence of environmental factors to forecast the yield of mollusks on marine farms (Sea of Japan) (S7-2397)

Posters

Li-sheng Cai, Jianguang Fang, Zengfu Song, Xingming Liang and Tianxing Wu
Natural sedimentation in large-scale aquaculture areas of Sungo Bay (S7-2618)

Marianna V. Kalinina and Elena G. Semenkova
Use of a visual method of estimation of Japanese mitten crab ovaries by maturity stages (S7-2298)

Nikolina P. Kovatcheva
Crustacean cultivation in artificial conditions: Promising trends in aqua- and mariculture in Russia (S7-2239)

Nikolai I. Krupjanko and Aleksei V. Lysenko
Reproduction of chum (*Oncorhynchus keta*) and masu (*O. masu*) salmon at salmon hatcheries in Primorye (Peter the Great Bay) (S7-2560)

Dmitry S. Pavlov, George G. Novikov and Andrei N. Stroganov
On some ways of preservation of local fish populations (S7-2280)

Nadezhda E. Struppul and Olga N. Lukyanova
Selenium content in marine organisms from the Russian coast of the Sea of Japan (S7-2540)

Galina I. Victorovskaya, Anatoly S. Socolov and Igor J. Suhin
Increasing sea urchin settlement productivity using various forms of melioration (S7-2259)

Yong-Jian Xu and Wei Wei
Principle of ecologically environmental capacity and its application to planning and management of coastal aquaculture in China (S7-2339)