

S2

FIS Topic Session Ecosystem-based approaches for the assessment of fisheries under data-limited situations

Co-Convenors: Yukimasa Ishida (Japan), Gordon H. Kruse (U.S.A.), Patricia Livingston (U.S.A.), Laura Richards (Canada), Mikhail Stepanenko (Russia) and Chang Ik Zhang (Korea)

The World Summit on the Sustainable Development recommended implementation of the ecosystem-based management by 2010. Achievement of this goal will require holistic assessment and management of fisheries resources and their associated habitat and ecosystems. Therefore, consideration must be given to ecological interactions of target species with predators, competitors, and prey species, bycatch species, interactions between fishes and their habitat, and the effects of fishing on fish stocks and their ecosystems. The challenge associated with implementation of ecosystem-based management is the design of an approach that is capable of capturing the complexity of the system, while at the same time dealing with the varying quality and quantity of available information. The Ecological Risk Assessment for the Effects of Fishing (ERAEF) approach developed by Australia and the Marine Stewardship Council's Fisheries Assessment Methodology provide two examples of pragmatic approaches. This session encourages contributions that: 1) describe the data and/or information requirements for the application of ecosystem-based assessments, 2) review existing and emerging ecosystem-based assessment methodologies, 3) describe indicators and reference points for these assessments, 4) identify research activities needed for developing an integrated framework for assessments, and 5) discuss indices for evaluating and assessing the ecosystem status and management. Selected oral and poster presentations from this session will be considered to be published in a peer-reviewed journal.

Tuesday, October 27 (9:00-18:00)

- 9:00 **Introduction by Convenors**
- 9:05 **Tony Smith, Alistair Hobday, Shijie Zhou, David Johnson and Keith Sainsbury (Invited)**
Ecological risk assessment for fisheries: Applications in Australia and in the Marine Stewardship Council (S2-5976)
- 9:50 **Kozo Ishii, Atsushi Yamasaki and Yukimasa Ishida**
First Marine Stewardship Council (MSC) ecolabelling of fishery products from marine capture fisheries in Japan (S2-5696)
- 10:10 **Inja Yeon, Chang Ik Zhang, M.H. Shon, H.J. Whang, Kwangho Choi, J.H. Lee and Yang-Jae Im**
Ecosystem-based approach for blue crab stock assessment and management strategies in the West Sea of Korea (S2-5993)
- 10:30 **Coffee / tea break**
- 10:50 **Masahi Nishimura, Ken Kobayashi and Yukimasa Ishida**
Marine Ecolabel Japan (MEL Japan): New ecolabelling of fishery products from marine capture fisheries in Japan (S2-5695)
- 11:10 **Jung Hyun Lim, Jae Bong Lee and Chang Ik Zhang**
Using size-based indicators to assess the sustainability for IFRAME (S2-5833)
- 11:30 **Laura Richards**
Research requirements for ecosystem-based assessments (S2-5791)
- 11:50 **Jong Hee Lee, Jae Bong Lee, Chang Ik Zhang, Dong Woo Lee and Dae Soo Chang**
Determining indicators and compatible reference points to assess coastal marine ecosystem risks (S2-5966)
- 12:10 **Chang Ik Zhang and Bernard A. Megrey**
A length-based stock assessment framework for data-deficient situations (S2-6004)

- 12:30 **Lunch**
- 14:00 **Introduction by Convenors**
- 14:05 **Kevern Cochrane and Yimin Ye (Invited)**
Using ecological indicators in the context of an ecosystem approach to fisheries for data-limited fisheries (S2-5990)
- 14:50 **Paul Spencer, Olav Ormseth, Anne B. Hollowed and Patricia Livingston**
Analyzing the vulnerability of fish stocks in the North Pacific Ocean (S2-5974)
- 15:10 **Jon Schnute et al.**
Ecosystem models: Can we trust ourselves? (S2-5903)
- 15:30 **Coffee / tea break**
- 15:50 **Chang Seung and Chang Ik Zhang**
Multi-attribute utility function approach to developing socio-economic indicators for Alaska fisheries (S2-5653)
- 16:10 **Yongjun Tian, Hideaki Kidokoro and Tadanori Fujino**
Interannual-decadal variability of demersal fish community in the Japan Sea: Impacts of climate regime shifts and trawl fishing with recommendations for ecosystem-based management (S2-5624)
- 16:30 **Sukgeun Jung, Young Shil Kang, Dong-woo Lee, Young-Sang Suh, Sukyung Kang and Yeong Gong**
Climate-driven ecosystem shifts indicated in fishery catch statistics from Korean coastal waters over 1968-2008 (S2-5612)
- 16:50 **Dohoon Kim and Chang Ik Zhang**
Developing socioeconomic indicators for an ecosystem-based fisheries approach (S2-5630)
- 17:10 **Vladimir B. Darnitskiy**
Seamount ecosystems – oceanographic environment (S2-5818)
- 17:30 **Discussion**
- 18:00 **Session ends**

S2 Posters

- S2-5553 **Saang Yoon Hyun and Rishi Sharma**
Integrated forecasts of fall Chinook salmon returns to the Columbia River
- S2-5666 **Hyeok Chan Kwon, Sang Chul Yoon, Sung Il Lee, Young Yull Chun, Jong Bin Kim and Chang Ik Zhang**
An ecosystem-based fisheries resource assessment for the gillnet fishery of the Uljin marine ranch ecosystem in Korean waters
- S2-5804 **Young Jae Shin, Jae Bong Lee and Chang Ik Zhang**
A systematic approach for estimating potential fishery yields of data-deficient, small-scale coastal fisheries in Korea