



DETAILED SYMPOSIUM SCHEDULE

Day 1: Monday, September 18, 2006

- 8:00 **Introduction**
- 8:20 **Keynote address:** Understanding and managing fisheries enhancement systems
Kai Lorenzen
- Theme 1 - Restocking and stock enhancement systems and their role in fisheries management**
Chairs: Ken Leber and Josianne Støttrup
- 9:00 **Mini-keynote:** Scallop stock enhancement in New Zealand: lessons from applying an integrated approach
Mike Arbuckle
- 9:30 Enhancing the recovery of depleted *Tripneustes gratilla* stocks through sea ranching and restocking
Marie Antonette Juinio-Meñez, H. Bangi, D Pastor
- 9:50 30 years of sea ranching manila clams *Tapes philipinarium*: successful techniques and lessons learned
Peter Becker, C. Barringer
- 10:10 **Questions**
- 10:30 **MORNING TEA**
- 10:50 Marine stock enhancement in Florida: a multidisciplinary, stakeholder-supported, accountability-based approach
Michael Tringali, K. Leber, W. Halstead, R. McMichael, J. O'Hop, B. Winner, R. Cody, C. Young, C. Neidig, A. Forstchen, L. Barbieri
- 11:10 Mudcrabs and mangroves; an example of integrated approaches to stock enhancement
Lewis Le Vay, M. Walton, J. Leбата, J. Primavera, E. Qunitio, F. Parado-Esteba, E. Rodriguez, V. Noc Ut, T. Nghia, P. Sorgeloos M. Wille
- 11:30 Restocking the eastern Baltic cod: in sight or distant?
Josianne Støttrup, J. Overton, H. Paulsen, J. Tomkiewicz, C. Møllmann, P. Pedersen, P. Lauesen
- 11:50 Improving yield and market traits of southern rock lobsters through translocation
Arani Chandrapavan, C. Gardner
- 12:10 **Questions**
- 12:30 **LUNCH**
- 3rd ISSESr Symposium Schedule

Theme 2 - When can hatchery releases add value to other forms of management?

Chairs: Kai Lorenzen and Caleb Gardner

- 1:30 **Mini-keynote:** Metapopulation source-sink dynamics and stock enhancement of marine species
Rom Lipcius, S. Schreiber, H. Wang, J. Shen, M. Sisson
- 2:00 Uses and limitations of contemporary genetic analyses in delineating biological populations for stock enhancement
Michael Tringali
- 2:20 Complete optimization: integrating management with hatchery releases
Robert Aguilar, A. Hines, M. Kramer, M. Goodison
- 2:50 Have reseedings contributed to the stock enhancement of abalone in Japan?
Tomohiko Kawamura, T. Horii, H. Takami
- 3:10 **Questions**
- 3:30 **AFTERNOON TEA**
- 3:50 Variable long-term performance of released sandfish
Steven Purcell, M. Simutoga
- 4:10 Simultaneous estimation of mixing proportions of released populations and genetic drift based on individual genotypes
Toshihide Kitakado, S. Kitada, H. Kishino
- 4:30 Manipulations of stocking magnitude; addressing density-dependence in juvenile populations of a marine carnivore
Nathan Brennan, K. Leber, C. Walters
- 4:50 Fisheries management in troubled waters: the need for scientifically informed decision making
Willis McConnaha, L. Mobernd, J. Waldo
- 5:10 **Questions**

Day 2: Tuesday, September 19, 2006

Theme 3 – Institutional and socio-economic issues

Chairs: John Ward and Ann-Lisbeth Agnalt

- 8:00 **Mini-keynote 1:** On the economics of ocean ranching and stock enhancement
Ragnar Arnason
- 8:30 **Mini-keynote 2:** Legal framework of sea ranching: The Norwegian experience and management strategy
Britt Leikvoll
- 9:00 Property rights in fish in sea ranching and enhancement – real or de facto
Bernard Walrut

9:20 Stock enhancement and fisheries management of the Japanese flounder in Fukushima, Japan
Takeshi Tomiyama, M. Watanabe, T. Fujita

9:40 Questions

10:10 MORNING TEA

10:30 Geoduck enhancement in British Columbia: a case study of incentives for enhancement
Michelle James

10:50 The economic feasibility of increasing rock lobster yield by translocation in Tasmania, Australia
Caleb Gardner, I. van Putten

11:10 Stocking and aquatic ranching in South America: lessons from stocking non-indigenous species for fisheries
Theresa Bert, H. Ortega, H. López-Rojas, A. Bonilla-Rivero, C. Alves, P. Vigliano, M. Alonso, M. Pascual, J. Ciancio

11:30 An economic analysis of stock enhancement of Persian sturgeon in Iran
Hassan Salehi

11:50 Questions

12:10 LUNCH

Theme 4 – Release strategies

Chairs: Dave Eggleston and Reiji Masuda

1:10 Mini-keynote: Release strategies for estuarine species with complex migratory life cycles: stock enhancement of Chesapeake blue crabs
Anson Hines, E. Johnson, A. Young-Williams, R. Aguilar, M. Kramer, M. Goodison, O. Zmora, Y. Zohar

1:40 Optimizing enhancement strategies: predicting growth and survival of hatchery-reared blue crabs under varying release scenarios
Eric Johnson, A. Hines, M. Kramer, A. Young-Williams

2:00 Optimal release site, season and size of spotted halibut determined by cage experiments and landing
Toshihiro Wada, T. Yamada, M. Aritaki, H. Sudo, Y. Yamashita, M. Tanaka

2:20 Evaluating the effect of size at release on recapture rates of Japanese spanish mackerel in the eastern Seto Inland Sea, Japan
Yasuhiro Obata, H. Yamazaki, A. Iwamoto, S. Kitada

2:40 Optimal location for cultured and released juveniles of ocellate puffer *Takifugu rubripes* identified by tag and release experiments using fluorescent elastomer
Hiroshi Nakajima, M. Kai, K. Koizumi, T. Tanaka, M. Machida

3:00 Questions

3:20 AFTERNOON TEA

- 3:40 Differences in predation between wild and hatchery-reared juveniles of tiger puffer in a salt pond mesocosm
Daisuke Shimizu, K. Sakiyama, Y. Sakakura, T. Takatani, Y. Takahashi
- 4:00 Stock enhancement of a marginal abalone fishery in trouble - the challenge continues
Mike Heasman
- 4:20 Behavioral patterns of hatchery-produced abalone *Haliotis asinina* for stock enhancement: predator avoidance and search for food and shelter
Shelah Mae A. Buen-Ursua, W. Gallardo, A. del Norte-Campos
- 4:40 Application of the larval phase in marine invertebrate population restoration
William Arnold, J. Leverone, S. Geiger, J. Greenawalt
- 5:00 A generalized predator-impact model to optimize stocking of estuarine finfish
Matthew Taylor, I. Suthers
- 5:20 **Questions**
- 6:30 **POSTER SESSION OPENING RECEPTION**

Day 3: Wednesday, September 20, 2006

- 8:00 **Keynote Address:** The Chesapeake Bay blue crab (*Callinectes sapidus*): a multidisciplinary approach to responsible stock enhancement
Yonathan Zohar

Theme 5 – Interactions between wild and released stocks

Chairs: Devin Bartley and Mike Tringali

- 8:40 **Mini-keynote:** Genetic effects of hatchery releases on marine finfish populations: case studies from Japan
Shuichi Kitada
- 9:10 Loss of family variation in Japanese flounder during seed production and shortly after release
O. Tominaga, J. Hasegawa, T. Tsusaki, S. Shiozawa, T. Seikai, Y. Tanaka, T. Fujii
- 9:30 Genetic risk of stocking on fishes having environmentally influenced sex-determination
Minoru Kanaiwa, Y. Harada
- 9:50 Experimental study on broodstock management of barfin flounder under the concept of minimum kinship selection
Shigenori Suzuki, S. Sekiya, T. Sugaya, M. Del Mar Ortega-Villaizan Romo, T. Matsubara, N. Taniguchi
- 10:10 **Questions**
- 10:30 **MORNING TEA**

- 10:50 Genetic diversity, migration, and reproduction of released hatchery-reared Japanese flounder *Paralichthys olivaceus*
Tetsuo Fujii, T. Ito, M. Nishida
- 11:10 Genetic considerations during the experimental and expanded phases of blue crab stock enhancement in Chesapeake Bay
Allen Place, X. Feng, J. Hill
- 11:30 Monitoring of the stock enhancement program for black sea bream (*Acanthopagrus schlegelii*) in Hiroshima Bay, Japan
Enrique Blanco Gonzalez, D. Jeong, T. Umino, K. Nagasawa
- 11:50 Ecological impact of sea-ranching lobster: current research and future perspectives
Ann-L. Agnalt, K. Jørstad, E. Farestveit
- 12:10 **Questions**
- 12:30 **LUNCH**
- 1:30 Testing differences between wild and hatchery-reared blue crabs: minimizing potential negative interactions at release
Alicia Young, J. Davis, E. Johnson, A. Hines
- 1:50 The concept of carrying capacity in red drum stock enhancement
Michael Denson, W. Jenkins, T. Smith
- 2:10 The optimum stocking density in relation to carrying capacity of nursery grounds for Japanese flounder
Yoh Yamashita, Y. Kurita, Y. Tanaka, J. Miller, M. Tanaka
- 2:30 **Questions**
- 2:50 **AFTERNOON TEA**
- Theme 6 – Biological insights from hatchery release**
Chairs: Neil Loneragan and Shuichi Kitada
- 3:10 **Mini-keynote:** Overview of queen conch (*Strombus gigas*) restoration
Megan Davis, G. Delgado, R. Glazer
- 3:40 Stock enhancement and ecosystem carrying capacity in blue crab nursery habitats of Chesapeake Bay
Rochelle Seitz, R. Lipcius, K. Knick, M. Seebo, W. Chris Long
- 4:00 The CARE experience: post-larval collection and rearing for restocking of Marine Protected Areas
Sven-Michel Lourié, G. Lecaillon
- 4:20 Spatial scales of movement of released hatchery-reared and wild Atlantic cod
Torstein Pedersen, E. Cuveliers, E. Berg

4:40 Dispersal, habitat associations, survival, and residence time of hatchery-reared and wild juvenile red drum, *Sciaenops ocellatus*, in the Alafia River, Tampa Bay, Florida
Carole Neidig, D. Roberts, C. Armstrong

5:00 Questions

7:00 **AQUARIUM CELEBRATION**

Day 4: Thursday, September 21, 2006

Theme 6 cont'd

8:00 Stocking the Blackwood River Estuary, Western Australia, with the black bream
Acanthopagrus butcheri
Greg Jenkins, D. French, I. Potter, S. de Lestang, N. Hall, G. Partidge, A. Hesp, G. Sarre

8:20 Natal homing of herring released in Miyako Bay
Hiroyuki Okouchi, M. Nakagawa

8:40 Optimizing fish size and applying a conditioning trial in a Danish flatfish stocking program
Claus Reedtz Sparrevojn, J. Støttrup

9:00 Movements of cultured white seabass, *Atractoscion nobilis*, released throughout the southern California Bight
Michael Shane, M. Drawbridge, D. Kent

9:20 Questions

Theme 7 – Arenas of progress

Chairs: Lee Blankenship and Barry Berejikian

10:00 **Mini-keynote:** Restocking, stock enhancement and sea ranching: arenas of progress
Devin Bartley, J. Bell

10:30 Stock enhancement and sea ranching- practices at Zhangzidao Island in the northern Yellow Sea, China
Qingyin Wang, H. Wu, J. Fang, S. Wang

10:50 Stock enhancement and sea ranching activities in the East China Sea
Huaqing Lu, J. Xu

11:10 Enhancement of paua (abalone) stocks in New Zealand
Jeremy Cooper (to be presented by Liz Keys)

11:30 Current situation and the future of stock enhancement of yellowtail, *Seriola quinqueradiata*, in Japan
Keiichi Mushiake, H. Yamasaki, H. Fujimoto

11:50 Stock enhancement program for threatened species in Southeast Asia
K. Okuzawa, Ronald Maliao, S. Buen-Ursua, J. Primavera

- 12:10 **Questions**
- 12:30 **LUNCH**
- 1:30 Current trends in hatchery techniques and stock enhancement for Chinese mitten crab, *Eriocheir sinensis*
Yongxu Cheng, X. Wu, X. Yang, A. Hines
- 1:50 Mark-release-recapture experiments of kuruma prawn by using microsatellites and mitochondrial DNA markers
Takuma Sugaya, S. Nakano, M. Oka, K. Mushiake
- 2:10 Utilization of deep seawater for Japanese scampi lobster broodstock, *Metanephrops japonicus*
Kazutoshi Okamoto
- 2:30 Using forced upwelling for nutrient enrichment to increase ocean ecosystem carrying capacity
Philip Kithil
- 2:50 Enhancing the production of the open ocean ranch
Ian Jones
- 3:10 **Questions**
- 3:30 **AFTERNOON TEA**
- 3:50 **Presentation of awards**
- 4:00 **Summing up and general discussion**
International Scientific Committee
- 7:00 **FAREWELL DINNER BANQUET**