

S-HD progress to date

- Human wellbeing in marine social-ecological systems (TOR 1a):
 - Juri Hori (Japan) reported on the WB Cube analysis.
 - Grant Murray (Canada) reported on WB social science analyses.
- Community and societal aspects of the consequences to and responses of human social systems to global changes (TOR 2):
 - Ron Felthoven (USA) reported on community resilience analyses and methodologies.
- Economic aspects of the consequences to and responses of human social systems to global changes (TOR 2):
 - Shang Chen (China) reported on analyses to measure the economic value of ecosystem services.
 - Minling Pan (USA) reported on the relationship among economic and ecosystem indicators.
- Contribute to NPESR3 (TOR 3):

Drs. Criddle and Makino led the discussion of Tier 1 indicators¹ and reminded S-HD members of the need to gather and compile ecosystem time series observations (ETSOs) for NPESR3. As there was a significant amount of work involved with gathering and compiling, the Co-Chairs discussed the need to identify and adopt an appropriate strategy to finish assembling this database. The indicators are listed in:

 - Contributions to PICES Press
 - Hori J. 2015. A psychological perspective on “human well-being”: An international comparison of the well-being structure. Vol 23(2).
 - Hirota M. 2015. A good relationship between local communities and seafood diversity. Vol 23(2).
 - Topic Sessions at PICES-2015 that are concordant with the S-HD TORs
 - FIS Topic Session (S8): *Marine ecosystem services and economics of marine living resources* (TOR 2). Co-sponsored by: ICES. Convenors: Shang Chen (China), Keith Criddle (USA), Mitsutaku Makino (Japan), Minling Pan (USA), Ian Perry (Canada), and Sebastián Villasante (Spain; ICES). Presentations included one invited speaker (Dan Lew; USA), seven contributed oral presentations (4 by early career scientists), and three poster presentations.
 - FIS Topic Session (S9): *Experiences and lessons learned in managing shared/transboundary stock fisheries* (TOR 2). Convenors: Minling Pan (USA), Shang Chen (China), Keith Criddle (USA), Mitsutaku Makino (Japan), Presentations included two invited speakers, Robert Blasiak (USA) and Kanae Tokunaga (Japan), and five contributed oral presentations.

AGENDA ITEM 3

Summary of the 4th meeting at PICES-2014

Not discussed.

AGENDA ITEM 4

Updates from members

Activity reports were presented by all S-HD members in attendance. A report on FUTURE SSC activities was presented by Dr. Emanuele Di Lorenzo and a report of the SG-NPESR was presented by Dr. Makino.

¹ Criddle K, Makino M (2013) Social and economic indicators for status and change within North Pacific ecosystems. PICES Press 21(2).

AGENDA ITEMS 5, 6 AND 7

Sub-teams***Review of Sub-Team structure and membership***

The five sub-teams were conceived during S-HD meetings at PICES-2014 as a means of fostering more progress in completion of the key tasks represented in the S-HD TORs. The sub-teams and their founding members are:

- ST-WB: Human wellbeing in marine social-ecological systems (TOR 1a). Juri Hori (Japan), Grant Murray (Canada), EunJung Kang (Korea).
- ST-Economy: Economic aspects of the consequences to and responses of human social systems to global changes (TOR 2). Minling Pan (USA), Sunny Chen (China), Masahito Hirota (Japan), Xu Wei (China), Ron Felthoven (USA), Keith Criddle (USA).
- ST-Community: Community and societal aspects of the consequences to and responses of human social systems to global changes (TOR 2). Ron Felthoven (USA), Stephen Kasperski (USA), Ekaterina Kurilova (Russia), Mitsutaku Makino (Japan).
- ST-NPESR: Contribute to NPESR-3 (TOR 3). Keith Criddle (USA), Mitsutaku Makino (Japan), Emanuele DiLorenzo (USA), Stephen Kasperski (USA), Ian Perry (Canada).
- ST-Communication: Develop an inventory of potential recipients, and their communication requirements for FUTURE and other PICES products (TOR 1b). Ekaterina Kurilova (Russia), Naesun Park (Korea), Mitsutaku Makino (Japan).

Sub-team discussions and development of work plans for 2016

S-HD broke into the sub-teams to discuss progress, overall effectiveness of the sub-team approach, and to develop work plans for 2016, plans through 2017, and through 2020 (completion date for S-HD). Specifically, each sub-team was asked to:

- Develop work plans that clearly specify “what” will be done to address the TORs, “how” it will be done, and “when” it will be done.
- Develop work plans that clearly specify “who” will conduct the needed work; identify roles for each sub-team member, identify gaps in expertise, and identify experts to invite to participate in or contribute to sub-team.
- Determine what information needs to be provided by or developed in collaboration with other Expert Groups.

Each sub-team reported back on their tentative plans.

- ST-WB: Human wellbeing in marine social-ecological systems
 - Goal 1: Expansion to the WB analysis of PICES member countries
 - Timeline: 2014-2017 – brush up of “interpretations” based on consultations
 - Goal 2: Literature review of well being, including concepts and case studies in MCs
 - Timeline: 2014-2015 – pursue and develop funding; 2015-2016 – hire post-doc to complete literature review
 - Goal 3: Continue case study research in Canada, including First Nations and other contexts. Develop conceptual/analytical models for possible implementation
 - Timeline: 2014-2020
 - Goal 4: Contribute findings to PICES-related publications, as well as to journal articles
 - Timeline: 2016-2020
- ST-NPESR workplan:
 - Circulate a spreadsheet to each Section member to update information; to be returned to the Co-Chairs by December 1, 2016;
 - Co-Chairs to suggest draft nominations for ETSOs by January 1, 2017;
 - Nominations to be finalized for submission January 31, 2017.
- ST-Economy: Economic aspects of the consequences to and responses of human social systems to global changes
 - Propose Topic Session for PICES-2016

S-HD-2015

- Enhance PICES/ICES connections
- Conduct analysis from NPESR3 ETSOs, looking for commonality among member countries regarding factors that impact economic performance of the fisheries
- ST-Community: Community and societal aspects of the consequences to and responses of human social systems to global changes
 - Examine revenues and quota sharing earnings by fishery and tie the communities
 - Examine quota concentration, physical dislocation where fishers live vs where they fish
 - Look at Alaska and West Coast vulnerability/resilience indicators
 - Index calculation of fishery involvement and number of fisheries engaged in by the community
 - Gather information on concentration of fishing, quota distribution, fishery-dependent communities in Russia
 - Look for trends that are occurring among indicators in NPESR for inclusion into FUTURE.
- ST-Communication: Develop an inventory of potential recipients, and their communication requirements for FUTURE and other PICES products
 - Develop inventory of potential recipients and their communication requirements (to start around 2018)

AGENDA ITEM 8

Topic session and workshop proposals for PICES-2016 and proposals for inter-sessional meetings

- PICES-2016 Topic Session
1-day Topic Session on *Coastal ecosystem services and human well-being* (proposed by Shang Chen; *S-HD Endnote 3*)
- Inter-sessional
MSEAS 2016 on “*Understanding marine socio-ecological systems: including the human dimension in integrated ecosystem assessment*”, May 30 – June 3, 2016, Brest, France. Sponsors to include: ICES, PICES, AMURE, IFREMER, NOAA, CSIRO, Université de Bretagne Occidentale. Travel for a S-HD member to attend.
- Inter-sessional workshop
S-CCME Workshop on “*Economic modelling of the effects of climate change on fish and fisheries*” (ICES/PICES WKSICCME_Econ) (During MSEAS 2016); Conveners: Alan Haynie (USA), John Pinnegar (UK), Lisa Pfeiffer (USA), Mitsutaku Makino (Japan), Jörn Schmidt (Germany), Sophie Gourget (France). Travel support for one S-HD member to attend.
- Inter-sessional workshop
NPESR3 Workshop (spring 2016/Honolulu or Victoria, Canada) Travel support for one S-HD member to attend.

AGENDA ITEM 8

Other business

None

S-HD Endnote 1**S-HD meeting participants**Members

Shang Sunny Chen (China)
 Keith Criddle (USA, Co-Chair)
 Emanuele Di Lorenzo (USA)
 Masahito Hirota (Japan)
 Juri Hori (Japan)
 Ron Felthoven (USA)
 Stephen Kasperski (USA)
 Ekaterina Kurilova (Russia)
 Mitsutaku Makino (Japan, Co-Chair)
 Grant Murray (Canada)
 Minling Pan (USA)
 Ian Perry (Canada)
 Tatiana Semenova (Russia)

S-HD Endnote 2**S-HD meeting agenda**

1. Adoption of the Agenda (Co-Chairs)
2. Introduction to the meeting (Co-Chairs)
3. Summary of the 4th meeting at Yeosu, October 2014 (Co-Chairs)
4. Updates from the members (incl. FUTURE SSC by Di Lorenzo)
5. Sub-team discussions part-1 (Well Being, Economy)
6. Sub-team discussions part-2 (Community, NPESR)
7. Presentations from each Sub-teams (Sub-team leaders)
8. Reconfirmation of the tasks to be done by PICES-2016
8. Proposals of Topic Sessions or WSs at PICES-2016 (if any)
9. Others (incl. Joint Int'l Symposium on HD)
10. Concluding remarks (Co-Chairs)

S-HD Endnote 3

**Proposal for a 1-day Topic Session on
 “Coastal ecosystem services and human well-being” at PICES-2016**

Convenors: Shang Chen (Japan), Minling Pan (USA), Ian Perry (Canada), Keith Criddle (USA), Mitsutaku Makino (Japan),

Coastal ecosystem services are benefits people obtain from the coastal ecosystem. Coastal ecosystems provide ecological products and services, such as seafood, regulation of climate, reduction of storm impacts, waste assimilation, recreation and leisure, and biodiversity maintenance. The identification, quantification and valuation of ecosystem services are key scientific questions. Ecosystem services are the base of human well-being from coastal and ocean ecosystems. The improvement of ecosystem services is the core task and principal objective of marine ecosystem management. This session will contribute to greater understanding of the status of human dimensions of the North Pacific ecosystem as well as important inputs to marine ecosystem management in North Pacific countries. The goals of this session are: (1) to provide a venue for natural scientists and social scientists to exchange results from research on ecosystem services and human well-being, and (2) to provide scientists around the North Pacific a chance to discuss collaboration on scientific projects.