



2010 PICES Science: A Note from the Former Science Board Chairman

My tenure as Science Board Chairman has come to an end. I truly enjoyed the time I could serve in furthering the cooperative international science we do in PICES, and I look forward to continuing to be involved in the activities of the Organization. I can look back over the last three years and be proud of the work that Science Board did to put *FUTURE (Forecasting and Understanding Trends, Uncertainty and Responses of North Pacific Marine Ecosystems)* on a firm foundation as our next-generation integrative science program. The acceptance in the international science community of the cutting-edge nature of *FUTURE* has confirmed for me that we did develop Science and Implementation Plans that have the potential to advance our understanding of North Pacific ecosystems and to project and forecast ecosystem responses to climate change and human activities in our coastal regions. We have set a high bar but it is not out of reach.

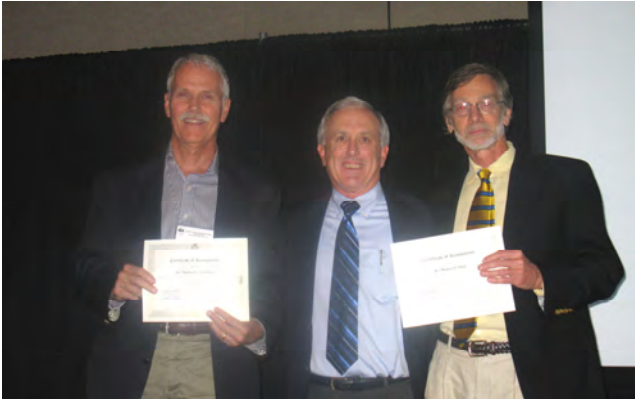
I also 'retire' from the Science Board knowing that it is in the good hands of Sinjae Yoo as our next Science Board Chairman, and that we have three very competent Chairmen of the *FUTURE* Advisory Panels: Thomas Therriault (AICE), Hiroaki Saito (COVE), and Robin Brown (SOFE). I am assuming a new role as U.S. national delegate to PICES, stepping into the position very competently filled by Samuel Pooley who is stepping down from PICES but not out of international science activities. Sam will be devoting more time to regional North Pacific science activities and organizations, which will have connections to

PICES in the future. Here I should also thank Michael Dagg and Michael Foreman who completed their terms as Chairmen of the Biological Oceanography (BIO) and Physical Oceanography and Climate (POC) Committees. On behalf of Science Board I want to acknowledge the outstanding service to PICES by the 'Mikes' – they are worthy examples for future Chairmen of our Standing Committees to emulate.

I can report again that PICES was very productive in 2010, both in sponsoring and co-hosting significant symposia and workshops and in making our science available to the science community and beyond. We either supported or helped support and arrange 15 inter-sessional symposia, sessions, workshops and meetings convened at various locations around the North Pacific and the world at-large. The premier event of the year was the very successful symposium on "*Climate change effects on fish and fisheries*" held in April 2010 Sendai, Japan. PICES was the major international sponsor of this event, along with ICES and FAO. The response to the symposium exceeded our expectations, with over 350 abstracts submitted, and almost 400 scientists from 37 countries attending. It was an outstanding symposium and venue, and again a well-deserved thanks to our Japanese hosts. Sendai was not our only joint effort with other organizations. PICES was also an active sponsor for the European Summer School *ClimECO2* held in August in Brest, France, and the *IMBER IMBIZO2* held in October in Crete.

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The two 'Mikes', Mike Foreman (left) and Mike Dagg (right) receiving PICES certificates of appreciation for their terms as POC and BIO Chairmen from John Stein.



A Science Board scrum before announcements are made for best presentations at the Closing Session (clockwise from left) Steve Rumrill, Sinjae Yoo, John Stein, Mike Foreman, Mike Dagg, Tom Therriault and Robin Brown.

In addition to symposia and workshops PICES publications are a very important record of the activities and scientific findings of the Organization. A dynamic and balanced publications program is needed for efficient communication with a highly varied audience. The end of 2009 through 2010 saw a busy year for publishing the outcomes of a number of PICES-sponsored activities. Here, I highlight some special primary journal issues:

- *Marine Ecology Progress Series* (2009, Vol. 393) – papers from the PICES-2007 Topic Session on “Phenology and climate change in the North Pacific”;
- *Deep Sea Research II* (2009, Vol. 56, Is. 26) – results from the second Subarctic Pacific Iron Experiment for Ecosystem Dynamics Study (SEEDS-II);
- *Deep Sea Research II* (2010, Vol. 57, Is. 7–8) – papers on krill biology and ecology from the 4th International Zooplankton Production Symposium (Gijón, Spain);
- *Continental Shelf Research* (2010, Vol. 30, No. 6) – a special issue on tidal dynamics of marginal seas dedicated to Prof. Alexei Nekrasov;
- *Deep Sea Research II* (2010, Vol. 57, Is. 17–18) – results from the Oceanic Ecosystem Comparison in the Subarctic Pacific (OECOS) experiment;

- *ICES Journal of Marine Science* (2010, Vol. 67, Is. 9) – papers from the 2009 symposium on “Rebuilding depleted fish stocks: Biology, ecology, social science and management strategies”.

The most significant accomplishment in publishing our science was the much anticipated second North Pacific Ecosystem Status Report (PICES Special Publication No. 4). This major report was published in the summer of 2010 and is nearly 400 pages and follows the 1998–2002 period of the first edition with another 5-year period covering 2003–2008. It updates the ecosystems of the coastal and oceanic regions throughout the North Pacific Ocean by addressing system components from climate and hydrography through to fish, birds and mammals. This was a major undertaking by PICES, and special recognition must be given to all the authors and contributors to the individual chapters and especially to the editors, Skip McKinnell and Michael Dagg. Without their dedicated effort, long hours and attention to the details we would not have the high quality volume that we do.

Our Scientific Report Series serves an important function in providing a venue for publication of the full work of our expert groups. In 2010, the final reports of the Working Group on *Ecosystem-based Management Science and its Application in the North Pacific*, and of the Advisory Panel on *Micronekton Sampling Inter-calibration Experiment* were published as PICES Scientific Reports No. 37 and No. 38, respectively.

We also worked to make PICES publications more accessible to member country scientists. This year the *Guide to Best Practices for Ocean CO₂ Measurements*, (PICES Special Publication No. 3, 2007), was translated into Korean and Chinese languages.

We have continued our high priority actions to build capacity in science and technology. Knowledge transfer and education are essential in this effort, and our Section on *Ecology of Harmful Algal Blooms (HAB-S)*, with support from the Japanese Ministry of Agriculture, Forestry and Fisheries (MAFF), has continued a multi-year project to improve capacity for testing seafood for harmful algal bloom toxins in developing Pacific countries outside of the PICES region. Building this capacity should increase the safety of exported seafood and improve safety of seafood consumed within the country. The 2010 course for the detection, sampling and analysis of harmful aquatic organisms was developed and then conducted with a number of institutions in Guatemala. The course included lectures and hands-on training classes to insure that the participants could effectively use the required equipment and properly conduct the toxin assays. Also with support from MAFF, a demonstration workshop on “An introduction to rapid assessment survey (RAS) methodologies for application in developing countries”

was held in July 2010, at the Marine Station of Kobe University's Center for Inland Seas, Japan. The focus of the workshop was on hands-on training of researchers from mostly developing Southeast Asian countries concerned about the potential introduction of non-indigenous marine species and provided participants with the tools to conduct their own surveys. Preparations are in progress for several capacity development events in 2011 and 2012:

- PICES/MAFF HAB training course for a South Pacific Island community, spring 2011, Fiji;
- PICES/MAFF RAS demonstration workshop for Southeastern Asian countries, summer 2011, Thailand;
- 5th SOLAS Summer School (co-sponsored by PICES), September 2011, Cargèse, Corsica, France;
- NOWPAP/PICES/WESTPAC training course on "Remote sensing data analysis", October 2011, Vladivostok, Russia, immediately prior to PICES-2011;
- 2nd ICES/PICES Early Career Scientist Conference on "Oceans of change", April 2012, Palma de Mallorca, Spain.

Many of the scientific and capacity building issues addressed by PICES are not unique to the North Pacific, and concern the entire world. It is, therefore, of value to expand cooperation with other international scientific organizations and programs at regional and global scales. At the PICES 2010 Annual Meeting in Portland, Oregon, observers from 35 international and regional organizations and programs were present, surpassing 30 observers in 2009 and 21 in 2008, and demonstrating that we are continuing to build our international relationships in productive ways.

Besides being well attended, PICES-2010 covered a broad range of timely and very relevant marine science issues. We appreciate that Dr. Larry Robinson, Assistant Secretary of Commerce for Oceans and Atmosphere and Deputy Administrator for the National Oceanic and Atmospheric Administration, gave opening remarks on the behalf of the United States, and that Luis Valdés, Head of the Section for Ocean Science of the Intergovernmental Oceanographic Commission (IOC) of UNESCO, addressed the participants in connection with the 50th anniversary of IOC.

About 430 scientists and managers from 16 countries attended a full-day Science Board Symposium led by a keynote by Dr. Jack Barth, 16 Topic and 3 Paper Sessions, 5 Workshops and 26 business meetings of the committees and expert groups took place, and 376 talks and posters were presented. Those are some of the facts, but our meeting is about the science in the North Pacific and globally, so it is important that I acknowledge some of the key PICES awards for scientific excellence. I must start with congratulating Dr. Jeffrey Polovina (NOAA's Pacific Islands Fisheries Science Center, U.S.A.), the recipient of the 2010 Wooster Award, and follow with acknowledging the Station Papa/Line-P monitoring program, the recipient

of the 2010 PICES Ocean Monitoring Service Award (POMA). We also presented awards for best papers and posters, and I encourage you to visit the PICES website (<http://www.pices.int/publications/presentations/>) and see who the worthy recipients were this year. I will, however, mention that the best presentation at the Science Board Symposium was by Dr. Shin-ichi Ito (Tohoku National Fisheries Research Institute, FRA, Japan) who gave an outstanding talk on the projection of Pacific saury response to future climate change.



A full house in attendance at the Science Board Symposium.



Dr. Shin-ichi Ito addresses the audience at the Science Board Symposium.



Dr. Tokio Wada (holding a glass of wine) enjoying a good joke at the Chairman's Reception at PICES-2010 in Portland.



Some high spirited enthusiasm being generated during bowling, the host country's demonstration sport.



A fine turnout at the Poster Session.



Some of PICES' finest scientists enjoying a game of Wii.

Now I will turn to some future activities. The most important is our next Annual Meeting, which will take place in Khabarovsk, Russia. The theme for the meeting will be *“Mechanisms of marine ecosystem reorganization in the North Pacific Ocean”*. As I have mentioned previously it is never too early to start making arrangements for attending this meeting. By all accounts, Khabarovsk will be an excellent venue, a beautiful city and, as pointed out by one of my Russian colleagues, the Amur River which runs through the city makes the Columbia/Willamette River system that runs through Portland, seem like a small tributary. This is just a point to further spark your interest in attending PICES-2011.

I want to close with where I started. I have enjoyed my time immensely as Chairman of Science Board and I hope that you feel my service was of value. I also must acknowledge the patience of the PICES Secretariat when I could not devote as much time to PICES as it deserved, especially during the time I spent in the Gulf of Mexico responding to concerns over seafood safety following a major oil spill. Finally, I want to take a moment to look forward to the possibilities and challenges for PICES. I do see a bright future for the Organization. We have a forward- looking, high quality science initiative in FUTURE; there were a number of new young scientists at PICES-2010 that I hope will stay engaged with PICES; our collaborations with other international science organizations are either growing or strengthening in very positive directions; and PICES is well recognized for its strengths in the science of climate and climate change effects on marine ecosystems. On the challenge side, I see that we will need to build on our strengths during tough economic times. The negative pressures on our member countries' budgets supporting both existing and new science programs will be large as the global economy struggles to recover and some countries work to reduce budget deficits. There will also be challenges to cultivate the next generation of leaders in PICES, and there will likely be shrinking budgets to support travel, limiting opportunities for attendance at workshops and symposia which are critical to vibrant international science collaboration. I see the glass as half full, however, and I am confident that the scientific value of PICES is well recognized, and as such, the Organization has the resilience to weather these times. I also believe PICES has the agility to find the opportunities that will be available to those who are working to do the best science on pressing regional and global issues of great societal concern. PICES has the people, the scientific track record and respect to be a relevant, responsive and reliable international science organization, and I look forward to being part of PICES as we go forward. So it is thank you for the opportunity to serve but it is not so long.

John Stein, former Science Board Chairman