

## FUTURE – From Science Plan to Implementation Plan

By John E. Stein

At the PICES Sixteenth Annual Meeting (October 2007, Victoria, Canada), Governing Council had provisionally approved the Science Plan for a new PICES integrative scientific program on “*Forecasting and Understanding Trends, Uncertainty and Responses of North Pacific Ecosystems*” (FUTURE). In mid-February 2008, the final version of the Science Plan was widely circulated and posted on the PICES website. The next step in developing the program was taken at a FUTURE Implementation Plan workshop held April 23–24, 2008, in Seattle, U.S.A. The goals of the workshop were to discuss: the organizing principles for implementing FUTURE, the framework for an organizational structure, potential membership and co-chairmanship for the Implementation Plan Writing Team (IP-WT), and a timeline for developing the plan. Attendees of the workshop included practically all members of our

Study Group on *Future Integrative Scientific Program(s)* (SG-FISP), Science Plan Writing Team (SP-WT) and Science Board, and several invitees. Some Governing Council members participated in the workshop, which was valuable to the deliberations.

On the first day, major elements of the agenda were: a review of the ICES Science Plan since ICES is our sister organization on marine issues, presentations on major expectations for forecasts, the human dimension, and communication of science products from FUTURE. Each country gave a presentation on current national programs and programs under planning that are relevant to FUTURE. On the second day, we discussed the charge to be given to the IP-WT and delved into establishing the potential membership and co-chairmanship of this team.



*FUTURE Implementation Plan workshop in session (April 23, 2008, Seattle, U.S.A.).*

Consensus was reached on the following. The Implementation Plan must clearly identify what we need to understand, forecast and communicate, and will use a matrix of key questions versus expected products. This will provide a starting point for describing a pathway for answering the key questions and sub-questions and producing key products. Task Teams under FUTURE should be product-oriented and facilitate coordination

among national and international programs. The IP-WT will identify a provisional set of Task Teams and propose terms of reference for each of them. A Scientific Steering Committee (SSC) for FUTURE will be established with the role and responsibilities to oversee tasks, work plans and products, and they may refine the Task Team structure if needed as the Program develops and evolves. The organizational structure of FUTURE will link to national

projects and PICES Committees. The latter point was an area of broad agreement, because it is important that all committees are fully engaged with this major science effort to help insure that all of the scientific capabilities within the Organization are contributing. As such, a major task of the SSC will be to insure effective communication with relevant international and national programs and with the Committees of PICES. The membership of the SSC will have national and Committee representation to help meet this objective.

Some of the key initial products for the IP-WT to consider are: coordinated monitoring, risk assessments (*e.g.*, management strategy evaluations), improved understanding (biological response to climate forcing at various time scales), operational forecasts (nowcasts to 20- to 30-year projection of biological response to change), regional assessments of topical issues (*e.g.*, mariculture, HABs, *etc.*), IPCC-type reports of North Pacific ecosystems (including summary reports that are policy relevant), capacity building (*e.g.*, social science), and public awareness of ecosystem change in the North Pacific. As I mentioned, this is an initial list that may be revised by either the IP-WT or the SSC of FUTURE.

Finally, a timeline for completing the Implementation Plan, leaving time for comments and review by the PICES community, was discussed. The following is a list of the anticipated steps that will allow for a first meeting of the FUTURE SSC in April 2009. The IP-WT will work by correspondence to develop a first draft of the Implementation Plan by September 2008. It will be posted on the PICES website and reviewed by the SG-FISP, Science Board and Governing Council. You may recall that we are convening a Science Board Symposium entitled “*Beyond observations to achieving understanding and forecasting in a changing North Pacific: Forward to the FUTURE*” at PICES XVII in Dalian, China, as part of the implementation of FUTURE. An Open Forum will be also held there to provide the PICES scientific community an opportunity to express views on the draft Implementation Plan. The draft Plan, together with comments from the Open Forum and Science Board will be considered by Governing Council in the hope of obtaining provisional approval at the Annual Meeting. Following the Annual Meeting, the Implementation Plan will be revised and submitted for final approval to Governing Council in February–March 2009. This should permit a first meeting of the SSC of FUTURE in April 2009.

As in all cases, the quality of the products from PICES depends on the willingness of scientists to take on key assignments, and to put in the extra time to complete the work, a list of potential members and Co-Chairmen for the IP-WT was prepared and circulated to Council. The IP-WT was established in May, and all PICES member countries appointed their experts to serve on the team and supported Drs. James Overland (U.S.A.) and Hiroaki Saito

(Japan) as IP-WT Co-Chairmen. The other members of the IP-WT are: Michael Foreman and Jake Rice (Canada); Xianshi Jin, Fangli Qiao, Sun Song, and Mingyuan Zhu (China); Masahide Kaeriyama, Orio Yamamura, and Ichiro Yasuda (Japan); Jung-Hwa Choi, Se-Jong, Ju Joon-Yong Yang, and Sinjae Yoo (Korea); Oleg Katugin and Vyacheslav Lobanov (Russia); and David Fluharty, Anne Hollowed, and Nathan Mantua (U.S.A.). In addition, Julie Kiester (U.S.A.) will currently serve on the IP-WT as an *ex-officio* member.



Dr. John Stein, PICES Science Board Chairman and Deputy-Director of the Northwest Fisheries Science Center in Seattle, U.S.A., chaired the workshop to its fulfilling conclusion.

In closing, I am more convinced than ever that FUTURE is coming at the right time. There is broad interest for the scientific community to provide improved outlooks and forecasts of the status and trends in ecosystem conditions, and in my view this interest has increased considerably very recently. Events ranging from natural disasters to speculation that the effects of climate change are evident in the collapses of fisheries have heightened the interest. In my own region, the closure of a major segment of the salmon fishery on the west coast of the United States has decision makers, managers and the public asking for improved projections of what the future may hold. I think the science and PICES are at a point where we can begin to provide information that is relevant to this demand. We have a receptive audience and now it is up to us to synthesize what we already know, increase our understanding in several key areas, and step forward and present an outlook of what we see as the likely status and trends in ecosystem conditions. The FUTURE is here.