

REPORT OF OPENING SESSION



The Opening Session was called to order on October 8, 2001, at 8:30 a.m. The Chairman, Dr. Hyung-Tack Huh, welcomed delegates, observers and researchers to the PICES Tenth Annual Meeting.

Welcome address on behalf of the Government of Canada

Dr. Huh introduced the Honorable Gilbert Parent, Ambassador of the Environment, who greeted participants on behalf of the Government of Canada (*OP Appendix 1*).

Remarks by representatives of Contracting Parties and the Chairman of PICES

Dr. Huh called upon Dr. Laura Richards to make a statement on behalf of the Canadian Government. Dr. Richards addressed the session and her remarks are appended to the report in *OP Appendix 2*.

Dr. Huh invited Dr. Nagahisa Uki to speak on behalf of the Japanese Government. Dr. Uki addressed the session and his remarks are appended to the report in *OP Appendix 3*.

Dr. Huh called upon Mr. Qian-Fei Liu to make a statement on behalf of the Chinese Government. Mr. Liu addressed the session and his remarks are appended to the report in *OP Appendix 4*.

Dr. Huh then asked Dr. Jin-Yeong Kim to speak on behalf of the Korean Government. Dr. Kim addressed the session and her remarks are appended to the report in *OP Appendix 5*.

Dr. Huh called upon Dr. Lev N. Bocharov to speak on behalf of the Russian Government. Dr. Bocharov addressed the session and his remarks are appended to the report in *OP Appendix 6*.

Dr. Huh invited Dr. Vera Alexander to make a statement on behalf of the U.S. Government. Dr. Alexander addressed the session and her remarks are appended to the report in *OP Appendix 7*.

Dr. Huh thanked the Honorable Gilbert Parent and all the delegates for their remarks and spoke on behalf of PICES. The text of his address is appended to the report in *OP Appendix 8*.

Keynote lecture

Dr. Huh called upon Ms. Patricia Livingston, the Science Board Chairman, to introduce the keynote speaker, Dr. Warren S. Wooster (School of Marine Affairs, University of Washington). This introduction can be found on the PICES Home Page, as a Power Point file "wooster_intro.ppt". Dr. Wooster gave the keynote lecture titled "PICES – The first decade and beyond". The full text of the lecture will be published in the PICES Scientific Report No. 21 (spring 2002), and the following is the summary of his presentation:

While PICES celebrates its tenth anniversary, its origins can be traced back more than 25 years. Early informal discussions of the need for such an organization took place at an FAO Technical Conference on Fishery Management in Vancouver in 1973. More active consideration began at the University of Washington in 1976, and the first informal meeting on the subject occurred in 1978. Between then and March 1992 when the PICES Convention was signed, there were 8 other informal and formal reunions, involving participants from most of the present member countries. While some time was required to develop mutual understanding of what such an organization could accomplish, the long gestation period was mostly due to the shifting political relations among the countries concerned.

Early in the discussions, it became clear that interests of the proposed organization would not overlap with those of the international organizations operating in the region. These were either global and broad in scope, or regional and specialized, in most cases for fishery management. PICES was envisioned as a regional organization, similar in many ways to the International Council for the Exploration of the Sea, ICES, in the North Atlantic, and was to be devoted to marine science in its broad aspects, and particularly to the interactions between the physical ocean environment and the ecosystems that function therein. This focus became particularly relevant as the impact of climate variations and the threat of climate change became apparent.

In its first decade, PICES considered a wide array of problems, including those of specific regions, such as the Okhotsk Sea and Oyashio region, the Bering Sea, the subarctic gyre, and the Japan/East Sea; circulation modeling, carbon dioxide, and the iron fertilization experiment; monitoring, data exchange and quality control; pollution assessment methodology; coastal pelagic fisheries, marine birds and mammals, crabs and shrimps, and harmful algal blooms. The major program on Climate Change and Carrying Capacity incorporates an interdisciplinary, integrative, and comparative approach, encompasses estimations of ecosystem carrying capacity and will shed light on the implications of climate changes for fisheries management. These efforts continue as the problems evolve and new ones arise.

The coming decade may include more cooperative operational efforts, for example in establishing an effective ecosystem monitoring system, and in data and information exchange and analysis in order to generate regular and timely ecosystem status reports, and to provide scientific assessment and advice to its members and to interested regional organizations. The goal of PICES should be to continue and enhance its services to its members and to their scientists.

Wooster Award ceremony

Dr. Huh reminded the audience that in October 2000, PICES announced a new award that will be given annually to an individual who has made significant scientific contributions to North Pacific marine science, such as understanding and predicting the role of human and climate interactions on marine ecosystem production. The award was named in honour of Dr. Warren S. Wooster, the principal founder and first Chairman of PICES and world-renowned researcher and statesman in the area of climate variability and fisheries production. Criteria for selection are sustained excellence in research, teaching, administration or a combination of the three in the area of North Pacific marine science. The award consists of a commemorative plaque and travel support to attend the following PICES Annual Meeting in order to receive the award.

Dr. Huh informed the participants that nominations for the first Wooster Award were received and considered by the PICES Science Board, and the late Professor Michael M. Mullin of the Scripps Institution of Oceanography was selected as the recipient of the award. Dr. Huh made the following statement:

As many of you know, the marine science community had to face the loss of Professor Mullin on December 19, 2000. Professor Mullin was an enthusiastic supporter of PICES and we have benefited greatly from his knowledge and insightful ideas. He had been a BIO Committee member since PICES was established in 1992, and put the Committee on firm footing while serving as its first Chairman. He was also the main organizer of the successful Beyond El Niño Conference (PICES' first large-scale collaborative activity with 5 other international organizations) held in La Jolla, in March 2000. His excellence in research and teaching, and his broad involvement in North Pacific marine science that spanned many nations, disciplines and scales, is a model for future Wooster Award recipients that will be difficult to match. He will be missed immensely by all but his keen interest and attitude for marine science will not be

forgotten. In addition to the Wooster Award, PICES dedicates this year's topic session on "Plankton Size Classes, Functional Groups and Ecosystem Dynamics: Causes and Consequences" and the subsequent special issue of Progress in Oceanography to his memory.

Then Dr. Warren Wooster presented a commemorative plaque to Professor Mullin's widow, Constance, and son, Stephen. A permanent plaque identifying Wooster Award winners will reside at the PICES Secretariat in Sidney, British Columbia, Canada.

OP Appendix 1

Welcome Address by the Honorable Gilbert Parent, Ambassador of the Environment (Canada)

Thank you, Dr. Huh, for your kind introduction. On behalf of the Government of Canada, it is my pleasure to welcome you to the Tenth Anniversary Meeting of the North Pacific Marine Science Organization (PICES). This meeting marks an important milestone in the evolution of PICES. Many officials who were instrumental in the founding of this organization are in the audience today. When you look back to what has been achieved in the last 10 years, you must congratulate yourselves foremost on how the Organization has brought scientists of the Pacific Rim countries together. PICES has helped member countries in the sharing of scientific information and in building teams which are working together to get a better understanding of the North Pacific Ocean. In doing so, you are also building a better understanding between our peoples.

Although you may have begun as a modest scientific body, you have held a very clear vision, and today you are dealing with practical concerns to which urgent answers are needed. The migration of key ecological species, the association of ocean processes to the production of local biota and fisheries, pollution and marine resource use, onshore developments and coastal ecosystems, all have important socio-economic as well as environmental implications. Judging from the growing attendance at the annual meetings, you are accomplishing your goals with remarkable success.

However, we still do not fully understand what is happening in the oceans and how the changes affect marine resources. The eastern and northern Pacific Ocean experienced El Niño or El Niño-like conditions in recent years,

cumulating in the largest recorded El Niño in 1997. During this period, the survival of many salmon species at sea has been poor over a wide area in the North Pacific. But now there are some signs of improvement. For example, in Canada, we are seeing better return of some species. I understand that there are reports of the largest run of salmon in the Columbia River in 50 years. If ocean conditions can change so quickly, what will be the impacts to the marine environment in the next 30 to 50 years when the enhanced greenhouse gas effect brings warmer global temperatures?

In my view, PICES is one of the foremost organizations with the people who would be called upon to address these questions and to find the answers. I urge you to use the wonderful networks of people and the framework for sharing information, that you have built, to sail full steam ahead into the Pacific Ocean, to carry out joint programs, to do the measurements and experiments to find the answers to what is happening there. Many aspects of our daily lives, from how much fish can be harvested, to how much electricity can be produced, to what crops should be planted, to what changes in disease patterns will take place, depend on more knowledge of the oceans. Your findings would provide the sound scientific basis for decision making by government authorities. The governments around the world have to act now and they can only do so with the proper knowledge coming from organizations such as PICES.

The Government of Canada does not doubt the reality of climate change and about the enormity of the domestic and international challenges we

face. Furthermore, in the Speech from the Throne to open the first session of the 37th Parliament of Canada, in January this year, ocean research was noted as one of the areas where new federal investment would bring direct benefits to Canadians.

I am encouraged that you are reviewing the progress which PICES has made over the last 10 years. I know that you will learn from this experience and continue to build and maintain a strong and vibrant organization that can succeed in meeting its objectives in the next decade.

Thank you.

OP Appendix 2

Remarks at the Opening Session by Dr. Laura Richards (Canada)

Mr. Chairman, distinguished guests and colleagues:

On behalf of Canada and the Canadian delegation, I would like to welcome you to Victoria. I hope that you have an enjoyable stay in this provincial capital city and that you can find time to explore Victoria's many attractions. I also hope that you have an opportunity to visit two of Fisheries and Oceans Canada's major science facilities - the Institute of Ocean Sciences just north of here in Sidney, and the Pacific Biological Station, a two-hour drive north in Nanaimo.

PICES, and not Canada, is the official host for this meeting, but Canada has been pleased to assist the Secretariat in making this meeting possible. I would like to express my appreciation to the PICES Secretariat and to Dr. Alexander Bychkov for both supporting the work of the Organization over the last year and for organizing this meeting. Canadian marine scientists have worked with the Secretariat in organizing this week's events and I would like to thank all of them for their support. In addition, I would like to invite you to the reception tonight that will be hosted by Canada.

This meeting marks a special 10th anniversary for PICES. Today's Science Board symposium provides us with an opportunity to look back and to reflect on the considerable progress that we have made. It is also an opportunity to chart a course for the next 10 years and to shape our vision for the PICES organization of the future.

One tool that could guide our vision is a strategic plan or blueprint. Canada would also like to encourage the completion of long-standing project activities so that PICES can move forward and take on new activities that continue to advance scientific knowledge. A review of the committee structure might be a useful step in this process.

Last year, PICES initiated planning for an Ecosystem Status Report of the North Pacific. For the past few years, Canada has produced a regional ocean status report that has proved valuable to oceans and fisheries managers as well as to scientists. An Ecosystem Status Report for the North Pacific could promote the collection and exchange of scientific data, one of the main objectives of PICES. Such a report could also identify knowledge gaps to help guide further study and future international collaborations.

I would like to emphasize that Canada continues to be a strong supporter of PICES and the ideals that PICES represents. As a maritime nation, Canada understands the advantages of coordinating research and freely exchanging scientific information on the oceans with programs such as ARGO. International collaboration is essential to address global problems like climate change and understanding basin-scale ecosystems that support marine fisheries.

Canada is pleased with the progress that PICES has made in collaborating with international groups, such as the IOC, JGOFS, GLOBEC and

CLIVAR. Canada would also like to encourage even greater collaboration among international organizations. These types of interactions will ensure that all components of the North Pacific ecosystem become integrated into our knowledge base.

The high attendance at this meeting is a tribute to the success of PICES and to the broad interest in PICES activities. It is also a measure of the stimulating program prepared by the committees and session convenors. Let us build on this enthusiasm to ensure a vibrant organization that we can celebrate at the next anniversary. Thank you.

OP Appendix 3

Remarks at the Opening Session by Dr. Nagahisa Uki (Japan)

Thank you, Mr. Chairman for your kind introduction.

Distinguished delegates and colleagues, on behalf of the participants from Japan, I would like to thank the PICES Secretariat and the Canadian delegation for inviting us to the Tenth Anniversary Meeting held in this beautiful seaside city, Victoria.

Well, PICES gave the newborn cry ten years ago here in the city of Victoria. In the meantime, PICES has been greatly contributing to the progress of marine science of the North Pacific through many activities, like the Scientific Committees, workshops, publications, PICES-GLOBEC CCCC Program and so forth. Moreover, its cooperation with other international organizations including NPAFC is also remarkable. We highly appreciate the efforts and contributions of the past Chairmen and leaders. It is our great honor to be a part of this activity from its foundation, and we, Japanese scientists, are very proud of being a part of the major effort from the beginning.

Through the 21st century, humankind has to face a shortage of food supply. More suitable and sustainable utilization of fisheries resources is certainly required. Furthermore, due to the anxiety about the global environmental degradation, such as global warming and loss of biodiversity, we need to preserve the marine

environment itself. And we believe that keeping the right nurturing has become a basic global subject. In our country, a new Fundamental Law of Fisheries was established last June. This Law aims to maintain and recover fisheries resources and also to secure a “stable supply of fisheries products” and a “sound development of fisheries”.

We expect that PICES will lead scientific research and investigations on preservation and sustainable utilization of marine resources, including lower to the highest trophic levels of the marine ecosystem. As a result, PICES will provide a scientific direction to solve the problems in the coming second decade, not only for the North Pacific Rim’s people but also for people all over the world. I hope for the prosperous development of PICES activities and there is no doubt that Japan will show continued and positive support towards PICES.

Before finishing my greetings, I offer my sincere sadness and condolences to the American people and all participants due to the recent unprecedented wrongful acts of terrorism. Overcoming such a wicked attack on science and civilization, I am sure that the Tenth Anniversary Meeting of PICES will become a great success.

Buildings can be destroyed, however, courage, honor and love are forever. Thank you.

OP Appendix 4

Remarks at the Opening Session by Mr. Qian-Fei Liu (People's Republic of China)

Mr. Chairman, distinguished guests, ladies and gentlemen:

On this occasion, I want to sincerely thank the PICES Secretariat and the Canadian Government for the excellent organization of the Tenth Annual Meeting and their support to scientific activities.

I am also very honoured to have the opportunity to participate in the Tenth Anniversary of PICES. Here I will say, a great happy birthday to PICES. In these 10 years, with increase in meeting attendance, PICES has grown to a strong organization with a good scientific reputation. Now, if you mention the name of PICES, many people will be glad to talk to you.

The Chinese Government has always supported PICES scientific activities. Today, with concern over the problems of the environment, and oceanic and fisheries resources, humans have to put more effort into studying the related problems. Wide international cooperation is needed to solve these problems through scientific approaches. As the locomotive in the North Pacific Ocean, PICES plays an important

role in facilitating and promoting joint scientific research activities.

The ocean occupies more than 70% of the total surface area of the Earth and it has a close relationship with human existence. Oceanic research is aimed at not only the oceanic environment, but also the interaction of the ocean and atmosphere. The result of these studies will benefit human beings in return.

China, as one of the coastal nations of the North Pacific, has been paying much attention to oceanic scientific research. Recently, under the coordination and support of PICES, Chinese scientists have had opportunities to be involved in cooperative research with other member states and share scientific information with them. This greatly promotes the development of ocean sciences in China. We hope that such international cooperation will continue in the future and that PICES will make even greater contributions to scientific research in the North Pacific.

Finally, I wish the Tenth Annual Meeting a great success. Thank you for your attention.

OP Appendix 5

Remarks at the Opening Session by Dr. Jin-Yeong Kim (Republic of Korea)

Mr. Chairman, distinguished delegates, ladies and gentlemen:

First of all, it is a great pleasure for me to be here as a part of the Korean delegation. On behalf of the Korean delegation and scientists, I would like to extend my heartfelt appreciation to the PICES Secretariat and the Government of Canada for preparing the Tenth Annual Meeting of PICES, and also to Mr. Chairman for giving me this opportunity of speaking to PICES.

As we know, the Convention for a North Pacific Marine Science Organization entered into force

on March 24, 1992, and the PICES First Annual Meeting was held in October 1992, in Victoria, Canada. During the last 10 years, PICES has made steady progress as the center in the field of marine science of the North Pacific region, through sharing and exchange of knowledge and information among marine scientists. Korea would like to take this opportunity to heartily congratulate PICES on the tenth anniversary and to express thanks to the Organization for its efforts up to this day.

There are a lot of problems related to the ocean to be linked directly to the existence of human

beings. For a solution of various human's dilemma, sharing and exchange of information and knowledge among marine scientists is very important. Most phenomena of the ocean are so complicated that they cannot be understood or solved by any single discipline of marine science. This is the reason why interdisciplinary activities and studies are stressed in the sphere of marine science and oceanography in recent years.

In this regard, PICES should take the leading role in intergovernmental and agency-wide cooperation in the North Pacific region from now on. With the help and assistance from member countries, PICES should also present a new

direction for the humankind to go forward in the field of marine sciences. I sincerely hope that PICES will develop and prosper incessantly and its vision and accomplishment will continue for a long time.

Our oceans are important not only to us but to the next generations to come. Our cooperation in marine research will be our duty and gift to our children. I believe through PICES, we can achieve harmonious and mutually beneficial cooperation as we start to see through many joint studies. And let us hope for the continuous effort in the advancement of humanity.

Thank you all for your attention.

OS Appendix 6

Remarks at the Opening Session by Dr. Lev N. Bocharov (Russia)

Dear Mr. Chairman, delegates, ladies and gentlemen, dear Dr. Wooster, the PICES founder.

First of all, let me thank the PICES Secretariat, the host of this Anniversary Meeting, and Fisheries and Oceans Canada, for the opportunity to be a part of this event, which summarizes the first ten years of geographically diverse PICES activities, that were efforts of many scientists in our marine scientific community.

Here, I represent not only the Russian delegation, the Russian Government, and scientists of the Russian Far East, but also the TINRO-Center, a scientific center which I head. It is a great honor and pleasure for me, since the specialists from our Centre were among those who first outlined the draft plans and developed constitutive documents for a new Pacific organization that later became PICES.

Russia became an official PICES member in 1996, but scientists and administrative officers were an active part of PICES activities all through the years since the establishment of the Organization in 1992. Ten years is a rather long time for an international organization in our rapidly changing world. It is now time for

maturity. Our Organization has reached the reproductive state. The growth rate of the scope of PICES is about to suggest the formation of a new specialized and more detailed oriented body for coordinating marine scientific research in the North Pacific, with PICES as the basis.

The results of the work done by PICES during the last year are extremely substantial. Over the course of the week we will have many chances to discuss all the issues on the agenda for the Tenth Annual Meeting, the Science Board, Scientific Committees, Working Groups and workshops. The result of PICES X will be satisfactory, like any other PICES meeting according to the spirit of the Organization.

We are happy to experience once more the dynamic and creative atmosphere of PICES meetings. We would like to give our special thanks to the Secretariat and all the Fisheries and Oceans Canada volunteers for their huge effort in preparing this Anniversary Meeting.

Many thanks to the father-founders of PICES and its veterans. Good luck to the PICES Tenth Annual Meeting and new creative steps in the 21st century. Thank you.

OS Appendix 7

Remarks at the Opening Session by Dr. Vera Alexander (U.S.A.)

It is a great honor to say a few words on behalf of the United States of America.

Ambassador Parent, Mr. Chairman, venerable ancestors and distinguished delegates and participants:

More than two decades ago, there was a dream. This dream was to create an effective multi-national approach to marine science research in the North Pacific Region. This huge region cannot be addressed without such a cooperative venture. The waters know no boundaries, and the biota, whether or not they migrate, also cross national boundaries without giving any consideration to our human designations. What started back then as a series of discussion meetings and scientific symposia emerged into the healthy, viable organization, which we call PICES – the North Pacific Marine Science Organization.

On behalf of the United States delegation, I am pleased to offer congratulations. The first ten years have shown steady evolution towards an organization which is making a difference in marine research and especially integration of knowledge in the North Pacific Ocean. We can now be certain that the dream will be fulfilled. At the same time, we must continue to work together so that the full potential of PICES is realized and so that in ten more years we will be as proud or even prouder of the accomplishments. Congratulations to Dr. Warren Wooster, the other founding ancestors, the delegates, advisors, scientific leaders and many supporters, and not least of all, to our wonderful Secretariat. And thank you to PICES Secretariat staff for their excellent work in convening this special Tenth Anniversary Meeting.

OP Appendix 8

Welcome Address by Dr. Hyung-Tack Huh, Chairman of PICES

Honorable Ambassador Gilbert Parent, Dr. Warren Wooster, Dr. William Doubleday, distinguished participants, ladies and gentlemen:

It is indeed a great honor and pleasure for me to address you at this Tenth Anniversary Meeting of PICES. This should be an opportunity to review the achievements for the last ten years and to look to the future of our Organization. In this regard, we are particularly honored by the presence of Dr. Warren Wooster, the principal founder and the first Chairman of PICES, who will give us a keynote lecture on “PICES – The first decade and beyond”.

A decade means a lot to us. An oriental proverb says: “A decade makes even rivers and mountains change”. I believe that ten years of PICES made an epoch in marine science of the

North Pacific. Over the last ten years, PICES has evolved significantly from an organization devoted mainly to the coordination of marine science programs in the North Pacific, to an organization having expanded its role to provide needs of member countries for the advancement of their marine science and interests in the North Pacific.

As we are well aware, ocean research in the North Pacific area is crucial to all nations, particularly to the member states of PICES. The scientific problems in the North Pacific Ocean are too extensive and complicated in its geographical and transboundary nature, and, therefore, they could only be solved by international, multidisciplinary cooperative research efforts. PICES was established in 1992 to advance such cooperative efforts.

The Organization has grown into a major international forum for exchange of new information, exploration of new ideas and building cooperative approaches to key scientific questions. Due to its international nature and the scientific excellence of the participants, Annual Meetings of PICES became the choice and most attractive forum for ocean science in the North Pacific. The number of attendees at the Annual Meetings has increased steadily from less than 100 at PICES I in 1992, to well over 500 at PICES IX in 2000. I feel that I am very fortunate to have been the Chairman during this exciting period. Thanks to the member states for their active participation.

PICES has made great achievements through the publication of research results and data to disseminate new knowledge and foster an ecosystem/interdisciplinary approach in marine science. We have witnessed a significant growth in the number of regular publications: from 1-2 volumes of the PICES Scientific Report Series in 1993, to 5 volumes in 2001. The books "Dynamics of the Bering Sea" and "Historical Atlas of the North Pacific Ocean" published in 1999 and 2001 represent a true international collaboration to update present knowledge of the North Pacific Ocean.

We are proud to have had PICES special issues published in *Progress in Oceanography*. Three volumes of this series have already been published since 1999 ("Ecosystem Dynamics in the Eastern and Western Gyres of the Subarctic Pacific" in 1999, "North Pacific Climate Regime Shifts" in 2000 and "Pacific Climate Variability and Marine Ecosystem Impacts" in 2001). PICES is going to continue to publish this series in the coming years.

By working closely with other international organizations, PICES has provided synthesis of regional research issues and contributed to the global research program. PICES has hosted many conferences, symposia and workshops in relation to GLOBEC, CLIVAR, GCOS, GEOHAB, GOOS, ARGO, etc. Good examples are the conference on "*Pacific Climate Variability and Marine Ecosystem Impacts: El Niño and beyond*" organized in March 2000,

jointly with SCOR, IATTC, IPHC, ISC and NPAFC; the joint PICES-GLOBEC topic sessions on "*Recent findings and comparisons of GLOBEC and GLOBEC-like programs in the North Pacific*", convened at every Annual Meeting since PICES VII; Workshop on "*Impact of Climate Variability on Observation and Prediction of Ecosystem and Biodiversity Changes in the North Pacific*" held in March 2001 and co-sponsored by the Census of Marine Life and the International Pacific Research Center; and the Symposium on "*The Role of Zooplankton in Global Ecosystem Dynamics (Comparative Studies from the World Ocean)*" that is being planned jointly with ICES and GLOBEC for May 2003.

The PICES-GLOBEC Program on Climate Change and Carrying Capacity (CCCC Program) provides a mechanism for integrating national GLOBEC research programs in the North Pacific, and is a regional component of the international GLOBEC effort. To ensure that PICES will serve as a regional focal point for integrating North Pacific climate research, PICES has been fostering collaboration with programs such as ARGO, CLIVAR, JGOFS and NEAR-GOOS.

Through these cooperative activities, PICES has led the way quite successfully in revealing the linkages between the North Pacific climate variations and fluctuations of marine productivities. To further progress the development of climate agenda, PICES needs to strive more positively to strengthen its ties with other international organizations, and to expand ties with countries not only in the North Pacific but also the whole Pacific Rim.

Ladies and gentlemen, distinguished participants:

In the plenary sessions, we will have more opportunities to hear in-depth overviews of the scientific activities of the last ten years by PICES. We have an exciting and diverse program covering a wide range of scientific topics, from migrations of key ecological species to the physical, chemical and biological processes affecting productivities and

environments of the North Pacific Ocean. I would like to call for the attention of all participants to enjoy and take full benefit of this Tenth Anniversary Meeting of PICES.

We have no host country this year for PICES X. The Tenth Anniversary Meeting has been prepared by the PICES Secretariat with support from Fisheries and Ocean, Canada. I would like to commend and appreciate the excellent and hard work done by the staff of the Secretariat and the generous support of the Canadian Government.

Before closing my remarks, I would like to express my deep regret over the loss of Professor Mike Mullin. As we all know, Professor Mullin was an enthusiastic supporter of PICES from the very beginning of our Organization, and we have benefited greatly

from his knowledge and insightful ideas. I hope you would join me in offering our sincere condolence to his family.

Global issues are raising a new consciousness in people of the 21st century for sustainable management of the oceans. I hope PICES X, the first annual meeting of PICES in the 21st century, will mark a milestone which will lead the way to create new global partnerships among different individuals, institutions and countries, for enhancing knowledge and information on ocean processes.

Finally, I would like to thank you all again for coming to Victoria, and look forward to a productive and enjoyable meeting.

Thank you very much for your kind attention.